AMATRUR APRIL. KADIO

IOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

COMPACT WITH HIGH EFFICIENCY



O le five inches long and 21 inches in orgineter, these new Philips valves have a power output of more than 200 walls at 100 Me/s, or 300 waits at lower frequencies. These valves embody entirely new archniques and offer unequalled effi-Their construction minimises internal Base-pins are sealed by fusion of red glass. Zirconium-coated anode gives ete freedom from secondary emission. Base t the standard 5-pin socket.



ALVES



APRIL BARGAINS from HAM RADIO

Three Specials for the Month!

Switching unit American type. Crackle finished cost 18 x 8 x 5 contains 24 Velt D.C. Motor and lots of useful goor. Few only, £1/10/- each. S.C.R.522 Genemotor Power Supply Input 22 Velt D.C. uptay 300 Velt D.C. —150 Velt D.C. 13 Velt Filiment Current Rating 300 M.A. Few only, £2 each. Line Filters 12 velts at 30 amps inclosed in Duralium coste. Air

Line Filters 12 volts at 30 amps inclosed in Duralium case. A Core Chokes and Condensers. Each 7/6.

CONDENSERS, English Block Type: 10 Mfd 400 volts Working 2 Mrs., 100 voits, Working 0 7 6 4 Mrs., 750 voits, Working 0 7 6 4 Mrs., 1500 voits, Working 0 7 6 2 Mrs., 1000 voits, Working 0 7 6 5 Mfd. 750 volts, Working ■ DUCON TYPE, Small Block: 4 Mfd., 600 volts, Working AMERICAN SWITCHING RELAY BOXES: Contain good wrecking parts, Co-Ax, Connecters, etc. Each MERICAN INTER-PHONE CONTROL UNITS, less Valves. Full of useful parts. Each 0.10 0 A T.S TRANSMITTER KEY CLICK FILTERS. Full of useful Parts. 1 0 0 GENEMOTORS.-A.T.5, A.R.8 (complete). Slightly-damaged Switches, 24 volt input, 550 and 300 volts output, at 250 mills. RECTIFIERS, Copper Oxide; 12 volt at 100 mills; S.P. Bridge. Ideal for Relay operations. 7/6 each. Also 4 to 5 volt, 100 mills. 0 5 0 TRANSCEIVERS, 109 VIBRATORS. 0.10.0 TRANSMITTERS .- A.T.5, 50 watt, Phone or C.W. crystal or V.M.O. Tube line-up; 6V6 Osc., 807 Doubler, 2-807 in final. Ideal Ham Rig. covering 20, 40, 80 metres. Also Broadcast Band to 150 Kc. Meter for al stages; easily adapted to A.C. or D.C. power supply. And we have cheaper models. Write us your requirements.) CARBON MICROPHONE INSERTS.—New. Each 0 2 0 ■ TRANSMITTER __V.H.F.: pasily adapted for 400 M/c. Band. Uses 2-15E's in final. Trombone Antenna. Each ■ LOW IMPEDANCE HEADPHONE LEADS.—Standard Length, Ea. STANDARD NOTES FOR WIRELESS MAINTENANCE MECHANICS. Including Bendix, A.T.5, A.R.8, etc. Each SEE OUR VAST RANGE OF CONDENSERS, METERS, FILTER CHOKES, RESISTORS (Variable & Fixed).

VALVES, New

807's	
001 3	10/-
AVII's	10/-
6V6's	10/-
6J5	10/-
12J5	10/-
65H7	10/-
6H6	10/-
3B24	10/-
1.16	10/-
1K4	10/-
879	10/-
12SQ7	10/-
957	7/6
VP41	7/6
VS68	7/6
VR102	7/6
1 K 1 O Z	
VR92 Diode	7/6
	7/6
VR92 Diode	
VR92 Diode VR122	7/6
VR92 Diode VR122 VR21	7/6
VR92 Diode VR122 VR21 VR65	7/6 7/6 7/6
VR92 Diode	7/6 7/6 7/6 7/6

WRITE FOR ANY PARTS NOT LISTED

HAM KADIO SUPPLIERS 16 Swan Street . . . Richmond

Phone: JA 3827. After Hours: How. 4465.

SPECIAL ATTENTION GIVEN TO COUNTRY MAIL ORDERS.

APRIL 1949

Vol. 17. No. 4

EDITOR:

T. D. HOGAN, VK3HX, Telephone: UM 1732.

MANAGING EDITOR:
J. G. MARSLAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK37EZ.

COMPILATION:

R. W. HIGGINBOTHAM, VK3RNL

CIRCULATION:

J. F. IRVINE, VK3TU.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS, 20 Queen St., Melbourne, C.1. Telephone: MU 5154.

PRINTERS:

H. HEARNE & CO. PTY. LTD., 285 Latrobe St., Melbourne.

MSS, and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.I., on or before the 15th of each month.

Subscription rate in Australia is 6/- per annum, in advance (post paid), and A7/6 in all other countries.

all other countries.

Wireless Institute of Australia (Victorian Division) Rooms, Telephone; FJ 6997.

- IN THIS ISSUE -

High Stability V.F.O	3
Rewinding D.C. Relays	4
Ionospheric Predictions for the Amateur Bands	5
Parallel Cathode Modulation	7
Crystal Controlled Transmitter for 144 Mc.	8
1949 Trans-Tasman Contest	10
Results of 1949 National Field Day Contest	10
Federal, QSL, and Divisional Notes	12
Fifty and Up	19
Correspondence	20

AMATEUR RADIO

Published by The Wireless Institute of Australia, Law Court Chambers, 191 Queen Street, Melbourne, C.1

EDITORIAL

INSTITUTE MEMBERSHIP

A recent survey of Divisional membership returns reveals some interesting facts which are of importance to the growth and development of the Institute.

Whilst the proportion of full members to A.O.C.P. holders is still maintained at its usual high level, there is nevertheless an indication that some Divisions are not fully cognisant of the desirability of enlisting in our ranks many of those who were trained in radio factories and signals or radar units during the War. Apart from the need for attracting these people into the Institute there is the national asset aspect to be considered, as all those with an up-to-date knowledge of the electronic art provide a vital nucleus in times of emergency.

There is also a large proportion of existing members who are not Ao.C.P. holders who should be encouraged at the earliest opportunity to qualify for this certificate and thus become full members of the Institute.

The figures under review further reveal that while some of the smaller Divisions are showing marked improvement in recrutting, the larger Divisions are not maintaining the high level of new members recently attained. It is destrable that all concerned investigate this question to ascertain whether proper and effective efforts are being made to attract and assist those interested in the radio art. We look to the larger Divisions to set the

lead in this respect as their

prospective members are more

plentiful than in the smaller

Divisions

The objects of the Institute shall be to encourage and assist all persons interested in any or all aspects of Amateur Radio and allied techniques and to promote the extension of interest and active participation and coordination in such pursuits as the above.

We are naturally anxious that all Divisions should always bear these important objects in mind, and by their activity in this direction, strengthen our membership throughout the Commonwealth.

-Federal Executive.

Homecra)

GREATER BARGAINS RETTER SERVICE



DON'T MISS THIS BARGAIN
let Builders! Foundation Kit,
iskellite Cabinet, Chasles, Front
nounting Plate and Dial Assembly,
is illustrated. Only 45-c complete.
VAILABLE FOR IMMEDIATE
DELIVERY.



per Bargain. Ethertone Magnet-Pickups, brand new in original ton—21/- complete.



glish Collaro Electric Gramo stors, The new AC47 Electric stor with Pickup and Automatic op. Complete as illustrated, £7/5



Black Crackle Finish Steel Chassis as illustrated Switches for up to an 8 valve Console Set, Size 14" x 9" x 31," Price 9" x 3%" Price
Mantel Chassis for 4 or 5 valve set.
Steel drilled Chassis measuing 12"
x 8\%" x 2". Price
Portable Chassis for 4 valve portable. Steel drilled Chassis measuring 8" x 8\%" x 2\%". Price
3/6
5 Valve Console Chassis Steel drilled
Cadmium Plated. Measuring 12"
x 9" x 3\%". Price
13/7 ALUMINIUM CHASSIS.

(Undrilled) 12" x 7" x 215" without ends \$J-13" x 7" x 215" without side \$J-13" x 7" x 215" with ends \$J-13" x 10" x 215" with ends \$12,7 \$J-13" x 10" x 215" with ends \$12,7 \$J-10" x 6" x 3" x 216" with ends \$J-7,7 \$J-10" x 6" x 3" with ends \$J-7,7 \$J-7 x 10" x 3" with ends \$J-7,7 x 10" x 10" x 3" with ends \$J-7,7 x 10" x 10" x 3" with ends \$J-7,7 x 10" x 10" x 3" with ends \$J-7,7 x 10" x 10" x 3" with ends \$J-7,7 x 10" x 10" x 3" with ends \$J-7,7 x 10" x 10" x 3" with ends \$J-7,7 x 10" x 10" x 3" with ends \$J-7,7 x 10" x 10" x 3" with ends \$J-7,7 x 10" x 10" x 3" with ends \$J-7,7 x 10" x 10" x 10" x 3" with ends \$J-7,7 x 10" x Chassis for Popular Kits Sets Black Crackle Finish Steel drilled Chassis, available for immediate 21/6

Fireside Five Multi Talkie Receiver Multi Talkie Power Supply Multi Talkie Vibrator Box Multi Talkie Sub Chamis



Toggle Switches As illustrated 1/11.





Single Circuit phone Jacks. As ill. 2/11.



SUPER VALVE Type 6K7G Valves (equivalent to 6U7G) Electrically perfect. loose base, only 4/11 each. As illustrated.

Steel and Copper Insulated Aerial Wire. 50ft. Colle, 1/4 per coll. 100ft. Colls, 2/6 per coil. 1 or 2-mile Drums, 65 per mile.



as illustrated. Pre-amplifier

probe- for vac uum tube voltmeter. As illus. 9/6, Type EA50 Diode for use with probe 16/-

Televison Type EF50 as illus: 16/-ea.

You will need this valve for your Set.

Country and Interstate clients add freight or postage

290 Lonsdale Street, Melb. Cent. 4311



A HIGH STABILITY, V.F.O.

BY ERN MARSTELLA,* VK2AEZ

Some months ago a new type of oscillator, known as the "Clapp," was featured in "QST," for which very high stability was claimed, and as this oscillator appeared to have good possibilities, the Writer decided to build up a v.f.o. incorporating it, and check its performance.

On completion of the v.f.o., and with the necessary adjustments, it was found to be equal, and in some cases better than some crystals for stability, staying in zero beat with a local b.c. station for four hours. It was then decided the unit was the "answer to a Ham's prayer" -variable frequency with crystal stability, that is not an idle boast.

Another feature of the oscillator is that after allowing a minute or so for tube warm up, it can be used immedlately, without any trace of drift. This is an important point, if the Transmitter is put on the air at short notice, when chasing that elusive new country,

Only one fault appeared when the v.f.o. was first put into operation. A faulty 6J5 caused the frequency of the oscillator to jump and drift, but on replacing the tube the trouble vanished.

It is important to remember there is more in building a v.f.o. than putting the necessary components together, so a word of warning to those who wish to build a v.f.o for the first time.

Variable condensers tuning the oscillator must be good, no backlash, end play, slackness in the bearings, etc. Coils should preferably be air wound, and held together with cemented strips.

If formers are used, they should be ribbed and the material used in their construction should be non-porous. Fixed condensers should be silver mica. but these are not readily available here. Mechanical and electrical stability are vitally important, and all wiring should be in heavy gauge wire, and all com-ponents rigidly mounted. If we all took more trouble to watch our components. wiring, etc., we would benefit much The Writer was fortunate in having

an American "Cardwell" condenser, with straight line tuning, which had very good bearings, and was couble spaced, the plates being of very heavy games him into the condense of the plates being of very heavy games him into the condense of the plates being of very heavy gauge aluminium.

Referring to the schematic disgram, it will be seen that the oscillator resembles that of the Colpitis, feedback being controlled by the ratio of C4 to C5, and differs from normal methods of

feedback inasmuch as the circuit uses capacity instead of inductance. Frequency is determined mainly by L1, C1, C2, C3 in series, in parallel with the resultant of C4 and C5 in series.

To locate the band, use all wave receiver, and leaving L1, C4, and C5 unaltered, find its frequency of operation Then bring the frequency to 3.5 Mc. by adjusting C2 and C3.

The inductance L1 is 164 turns of 22 gauge enamelled wire, slightly stretch-ed, and close wound on a 1½" ribbed former. Make sure the inductance and condensers are mounted in such a way that they are not effected by heat from nearby components. The grid circuit resonates in the 3.5 Mc. band.

The rest of the circuit is self explanatory. VI, the oscillator, is a 6J5, but a 6SJ7, triode connected, or a 6AC7 also triode connected, operate just as well, although colibration will alter if the valves are changed. It might be a good idea to use a small variable condenser across C1, C2, C3 to adjust for difference in frequency. The output of the oscillator is taken from the cathode to minimise loading effects, thereby reducing the cutput somewhat. Coupling can be done from the plate in the normal manner, but the cathode method of taking the output was found to be the best.

The second stage uses a 6SK7, or equivalent, and functions as an isolator. It is needed to isolate the oscillator from the power stages, which would react or the frequency of the oscillator if coupled

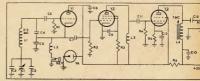
directly to it. Two isolating stages may be used for complete isolation if desired, by adding another identical 6SK7 The output from such untuned stages is small but lessens the chances of frequency change.

The third stage uses a 6V6G as a doubler, doubling from the fundamental frequency of 3.5 Mc. to 7 Mc. The output is tuned by a perma-tuned coil which has a diameter of 9/16ths, and was originally a short wave coil. old windings were removed, and the former wound with 34 turns of 32 gauge enamel, close wound, and so placed that the movable iron slug can be varied from right out, to right through the coil. The resonant point is very broad, and when found adjust to the centre of the band. If you care it can be ar-ranged to have normal tuning with a condenser, by bringing the shaft through the front panel, and reducing the turns on the coil slightly so that the circuit will tune to 7 Mc. Output of the v.f.o. is fed to the crystal

socket if a 7 Mc. crystal is used. If the crystal is 3.5 Mc., it would be better to have the plate of the 6V6G untuned (the same as the isolator stage), and feed to the crystal socket in the normal manner. It is advisable to see that the r.f. chokes are different in both plate circuits, otherwise oscillation may occur. Voltages for the 6J5 plate, 6SK7 plate

and screen, and 6V6 screen, are voltage regulated by a VR150/30, but will work quite well without a regulator, as voltage has very little effect on frequency The voltage on the screen of the 6SK7 should not exceed 80 volts for best results. The supply voltage to the plate of the 6V6G is 250, and the r.f. output compares favourably with the average crystal.

(Continued on page 7)



C1-100 pF. variable (see text). C3-150 pF. C4-0.001 uF. "

C2-100 pF. silver mica. C5-0.001 uF. C6-0.0001 pF. ..

C7-0.0001 pF. mica. C8-0.05 uF. paper. C9-0.01 uF. C10-0.1 uF.

C10-0.1 uF. ,, C11-0.0001 pF. mica.

C12-0.01 uF. paper. C13-0.0001 pF. mica.

R1-100,000 ohms, carbon.

172 50 000 R3-3.000 w.w., 10 watts carbon. R4-100.000 P5_400

w.w. RS-2 500 10 watts. V1-8J5 (or 6SJ7 as triode). V2-6SK7

V2_6V6C V4-VR150/30. L1-See text

L2-2.5 mH. R.F.C. -2.5 mH. L4-See text

* Terrigal Road, Erina, N.S.W.

REWINDING D.C. RELAYS

BY A. K. HEAD,* VK3AKZ

If you have collected a variety of relays, working on different voltages, then it is rather difficult to find an economic way of energising them. One way is to have a small metal rectifier per relay and provide the various ac voltages necessary. This work is accordingly of the control of th

disposals.

A more satisfactory way is the re-wind the relays so as to all work on the same voltage. Then one big metal rectifier can supply the lot; and to make the rewinding easy there is a simple rule for calculating the new winding. All you need do is:—

(i) Measure the gauge of wire used in the old winding.

(ii) Mark the depth to which the bobbin is filled by the old winding. (iii) Rewind the bobbin to the same

depth with the new wire (the gauge of which is worked out as described later). No need to count turns, just wind on Assistant Technical Editor, 12 Peverill Street, Balwyn, Victoria. wire until the new winding occupies the same volume as the old.

same volume as the old.

(iv) The gauge of the new wire can be found from the rule: To double the operating voltage rewind with wire three gauges thinner than the old wire; to

halve the operating voltage rewind with wire three gauges thicker than the old wire.

Or if you want to change the voltage in some other ratio, then change the wire gauge as in the following table:—

wire gauge as in the following table:

Voltage Ratio Change in Gauge

(v) When a relay has been rewound by this rule, the current it draws will change inversely as the voltage ratio, e.g., if a 24 volt 50 Ma. relay is rewound to operate on 12 volts, then as the operating voltage has been halved, the new operating current will be double, i.e. 100 Ma.

To illustrate this method, suppose a Vavolt, 480 km relay is to be rewound for 12 voilt operation. The wire of the old winding is measured and found to the operating voilage, it must be rewound with wire three august thicker, i.e. 25 B. & S. So the old winding is stripped off and the bobbin rewound to the same depth with the new with the part of the same depth with the new winding it will draw, 100 Ma.

If you want to change the voltage in a ratio which is not given in the table, then the nearest entry will be good enough, e.g. in rewinding from 18 volts to 6 volts, changing the wire gauge by five will do.

These rules are only true for enamelied wire—so don't try to use them for silk or cotton covered wires. This is because of the larger volume taken up by these insulations. They also only apply strictly when the gauges are measured in B, & S., but for practical purposes they also apply to S.W.G.



Amoteur Rodio: April, 1949

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

APRIL 1949

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

These charts refer to the following world zones:-

Zone Region Termina! Western Europe London Mediterranean N.-West America San Francisco 3a N.-East America New York Central America Barbados South Africa Johanneshurg

Far East Manila actually been forecasts have prepared for point-to-point circuits beoverseas terminals mentioned in the pected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South-Eastern Australia and from Western Australia to the various world zones. No forecasts are given from Perth to zones Z2 and Z4 for the current month. Chart P-Z2 would be essentially similar to P-Z1 while chart P-Z4 would be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, zones I and 3a. it is necessary to consult both the shortroute (s.r.) chart and the following long-route (l.r.) chart.

QUIZ

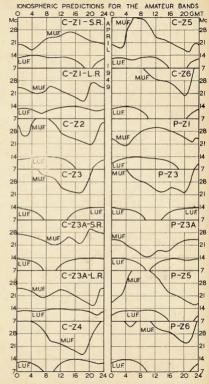
The Prediction Service welcomes comments on the accuracy of its predictions. In particular answers to the following questions on the Canberra-Cairo circuit for April would be useful. 1. Was the 28 Mc. band open consist-

ently during the periods 0400 to 1200 hours and 2200 to 0100 hours G.M.T.

2. Was the 14 Mc. band open, but noisy, from midnight to noon

3. Were conditions good on the 14 Mc. band throughout the period 1500 to 2300 hours G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month,



VEALLS for All Radio Requirements



TRANPRO VALVE AND CIRCUIT TESTER.
The compact convenient Tester for Redio Serviemen and Experimenters

Reads milliamperes, D.C. and A.C. volts, output volts and tests resistors, condensers and volves. £32/19/6 (plus tax). Easy terms ovailable.

PRODUCE AND RECORD YOUR OWN SHOW with the BRS Junior Home Recorder! Just imagine the fun producing and recording your own radio show at home. The "BRS" Home Recorder embise you to cut your own recordings or record your forewards or programme direct from the receiver. At Yeals NOW, £41.



LEXINGTON PICK-UPS

This English moving coll pick-up gives full reproduction of the total audio frequency range. Complete with transformer screening box and supplier needle. Attractively priced at: 12in. 2118/10; 16in.

"TECNICO" LOW-PRESSURE CRYSTAL PICK-UPS.
Model FL 48. Replaceable needle pick up for general use, £5/4/Model FF 8. Crystal pick-up with built-in sapphire stylus £6/9/B.A.1 Sapphire Play-back Needles. Gire 2,000 playings! 9/9 oach.
BLANK DISCS available 1 0in. £6/6 12in. £6.

VEALLS

243 SWANSTON ST., MELBOURNE, FJ 3145.
299 CHAPEL ST., PRAHRAN, LA 1605.
Associated with ARTHUR J. VEALL Pty. Ltd., Est. 1911.



PARALLEL CATHODE MODULATION

Some Light On A Little-Known System BY GORDON N. HARLEY.* VK4GH

The Modulator here described has aroused very favourable comment from stations contacted and so many requests for detailed information have been received, that it was thought best to present it through the pages of "Am-

ateur Radio. This method of modulation is of particular interest to the c.w. man who wants to use phone occasionally, for no expensive equipment is needed and most of the parts will be found lying idle in any Ham shack. At the same time it is worthy of permanent installation in a purely phone transmitter, for excellent quality is obtainable with ample percentage of modulation.

CIRCUIT The system gets its name from the fact that the modulator tube and the r.f. tube are in parallel across the modulation choke. It is, in effect, an application of the familiar "cathode follower" system of coupling, and possesses two outstanding advantages. Firstly, because the cath-ode impedances of the two tubes are almost the same, no matching transformer is needed; all that is required is a good audio choke capable of carrying the sum of the plate currents.

Secondly, because the cathode coupled modulator tube operates with approx-imately 100 per cent. degenerative feedback, distortion in this stage is greatly reduced. Because of this degenerative feedback the grid swing needed on the modulator tube is quite high, and an extra stage of voltage amplification may be needed. This slight disadvantage is more than offset, however, as the cost of a voltage amplifier is well

below that of a 25 to 50 watt modulator. There is a further advantage-the modulator may be used with any of several final stages, simply by plugging it into the keying jack in the cathode

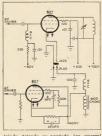
OPERATING For greatest efficiency the r.f. stage should be DATA plate voltage set down for Class C telegraphy. Grid bias, which should be at least three times cut-off for the plate voltage used, may be obtained from batteries, grid-leak, cathode resistor, or any combination of these. The total bias must be by-passed for audio; here the by-pass condenser is 0.01 uF. mica In deciding the safe plate input for a

given for plate dissipation for any class of service (usually class-B r.f. amplifier or grid modulated conditions) and multiply by 2.2; permissible plate cur-rent is then easily calculated. This input assumes correct adjustment throughout the r.f. final stage; preliminary tuning should always be done at reduced plate voltage

* 208 John St., Maryborough, Qld.

R.F. excitation power should be at least 5 per cent, of the final plate input. The power supply of the r.f. driver must be well filtered; failure to achieve this result will cause grid modulation of the final at the ripple frequency.

Audio power required is 10 per cent. of the r.f. final input. Here an 807 is used, as shown in the diagram, but any



triode, tetrode or pentode (or several in parallel) may be used, provided the power output is sufficient. If a tetrode or pentode is used, the 8 uF. by-pass condenser from screen direct to cathode (NOT earth) must be included.

In tuning it will be found that comparatively heavy antenna loading is needed, or the positive modulation capability of the r.f. stage will not be sufficient when excitation is increased until the tube draws calculated plate current. If the antenna loading is too heavy for a given plate current, the efficiency will suffer with consequent overheating. Antenna coupling should be increased until 100 per cent, modulation capability is obtained with normal plate current, but not beyond this point. Grid current will vary according to the type of tube used as r.f. final Modulation capability may be improved in some cases by reducing grid drive. The maximum plate

PRACTICAL APPLICATION dissipation of the watts, which multiplied by 22 gives 66 watts as the permissible plate input; maximum plate voltage for Class-C telegraphy is shown as 750 volts. However, it was decided to keep below these limits, and the following are operating voltages and currents as used here. R.F. Final-Plate volts 700, plate

current 85 Ma., screen volts 325, control grid volts -175, grid current 2.5 Ma. The bias is made up of 62.5 volts from grid leak, 90 volts from batteries and 22.5 volts from drop across the modulation choke. The screen voltage is a little high. but no overheating occurs.

Modulator-Plate volts 400, plate current 32 Ma., screen volts 225, con-trol grid volts -22.5 (drop across

choke)

As used here the cathode resistor for the modulator is not necessary, as the drop across the choke holds the plate current down. Should greater modulator bias be found necessary, a resistor of appropriate value may be inserted as shown to make up the difference between the drop across the choke and the required voltage

The r.f. choke and by-pass conden-ser in the "hot" lead from the modulator were found necessary here because quite a lot of r.f. was coming in via

this lead. Should any reader have queries, the Writer will do his best to assist on receipt of a stamped envelope.

A HIGH STABILITY V.F.O.

(Continued from page 3) If you have taken every care with the building of this unit, you should have no trouble from instability, and after it is adjusted, allow to run for a period against some crystal oscillator of known stability, adding positive or negative co-efficient condensers across C1 C2, C3, if necessary, and finally check the tone of the note compared to the crystal. If break-in keying is preferred this unit will follow very nicely. Insert the key in the cathode lead of the os-cillator, from the bottom of L2 to earth. The final step is to resonate the 6V6G plate tank

This v.f.o. has been in use on 14 Mc. since November, 1948, and over 200 DX contacts have been made, and except for the period when the oscillator tube was faulty, every report has been T9 and T9X; to sum up, the Writer is more than pleased with the performance of the unit.

Now for a word of warning for newcomers to v.f.o. operation:-

Make sure you are always in the band.

- 2. When you have finished a DX QSO. shift your frequency if you have called that station.
- 3. Never wander over every Kc. of the band if you are not getting out unless you are sure you are be-ing QRMed-it may be conditions.
- 4. Never put the whole transmitter on the air when "v.f.o.-ing" near the DX station's frequency. Use a separate power supply for the v.f.o., and adjust the v.f.o. to frequency

enly.

Crystal Controlled Transmitter For 144 Mc.

BY J. COULTER.* VK5JD

This transmitter should find favor with those interested in v.h.f. and who failed to draw an SCR522 from the disposals "lucky dip."

With the exception of the 832, all parts are readily available and reasonably cheap. Quite good results may be had without the 832. Substitute a pair of RL7s and it is still possible to put a very respectable signal on the hand.

Very little information regarding the RL7 was available. The circuit values specified are the result of "cut and try." It is possible that further experi-ment would result in greater efficiency. However, neither tube is working above the recommended plate dissipation

show that it is quite a straight forward four stage transmitter but careful construction is necessary if optimum results are to be obtained.

The chassis measurements are 17" x 6" x 6". Neither knobs or dials are used -all tuning being done with a screw driver, to ensure a compact layout,

The crystal oscillator is located on the left hand end of the chassis, with # 49 Farnham Rd. Ashford South Aus.

Inspection of the circuit diagram will

both cathode and plate mils mounted below. Whilst the circuit diagram shows the suppressor at a positive potential. this may not be necessary. (This arrangement is the remains of early efforts to take off the sixth harmonic and delete one stage.) Tuning is quite normal and is adequately covered in the Handbook.

Crystals used are in the 8 Mc. to 8.2

Mc. region. The plate circuit of the

AC7 oscillator being tuned to the third harmonic of the crystal.

The RL7 tripler stage follows, being placed as closely as possible to the oscillator plate tank as "lead length," or rather the lack of it, becomes important at these frequencies. No difficulties should be experienced with this stage.

The doubler stage, which also employs the RL7, gave the most trouble. The coupling between stages is most critical. Optimum spacing of grid circuit and previous plate appears to be about 11" and the grid current will be 6 Ma. The Eddystone r.f. choke is also critical. The actual inductance is 5.32 uH, and they are readily available and should be used if best performance is to be obtained. Plate tank and condenser are mounted above the chassis but this is mainly for convenience in further experiments. There should be no reason against

mounting below as the plate circuit is at twice the frequency of the grid circuit.

The p.a. is mounted on a vertical shield which, together with the recommended socket, provide adequate isolation between the plate and grid circuits. Should another type of socket be used it will be necessary to space the socket from the shield. The spacing must allow the tube to protrude through the shield to the level of the tube's internal shield to obtain the same degree of circuit isolation. This appears to be the only constructional precaution.

Having completed the wiring of the transmitter, filament voltage should be applied to all stages and checked. Commencing with the oscillator, apply h,t and tune, stage by stage to the grid of the p.a. With the p.a. grid drawing 3 or more miliamps, apply reduced plate and screen voltage to the 832. If the grid current drops, the shielding is in-sufficient or the stage needs neutralissufficient or the stage needs neutralis-ing. The latter is easily accomplished with two pieces of wire, fed through the shield from grids to opposite plates. The wires may be cut or spaced until neutralisation is effected. With the tube

McGILL'S (Est. 1860)

OVERSEAS AND LOCAL POPULAR MAGAZINES OBTAINABLE ON SUBSCRIPTION

AMERICAN ...

Audio Engineering, £1/12/-; C.Q., £1/12/-; Communications, £1/4/-; Electronics, £7/6/-; Popular Science, £1/5/-; Popular Mechanics, £1/8/-; Q.S.T., 33/6; Radio News, £1/12/-; Radio Electronics, 29/6; Science Digest, 24/-; Science and Mechanics, £1; U.S. Camera, 26/-.

ENGLISH and AUSTRALIAN . . .

Australian Radio World, 16/- Amateur Radio, 6/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/1/6; Wireless World, £1/12/6; Wireless Engineer, £2.

(Add exchange to country and interstate cheques.)

Large Range of Technical Books, Stationery and Novels on Display,

Mail Orders by Return Post.

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.1, VICTORIA, (The G.P.O. is opposite) M 1475-76-77 stabilised, the plate input may be run up to the rated value of the 832 or 832A.

Whilst the transmitter is mainly used for telephony, it has been keyed for c.w., quite satisfactorily. Screen keying of the two RLTs was the method used, with a small battery to bias the 832 (45

Coupling to the antenna will vary with the type of feed line in use. It is recommended that the coupling be tuned as outlined in "QST," August 1947. This is far superior to the method usually adopted—"boke a piece of fiex in until she draws."

Voltages and currents of the various stages are:-

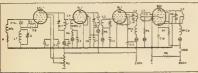
Oscillator plate		 Volts 220	Ma. 10
Tripler plate		 229	_
Tripler grid		-	4
Doubler plate		220	24
Doubler grid	1730	-	6
P.A. plate		300	42
P.A. grid	*464		2.5

Note.—RL7 acreens are operated at the same potential as the plate. In the final set-up the oscillator and tripler plate currents are not read. They are adjusted to manufacturer's rating and the meter removed. Grid current of the following stage is checked to indicate resonance.

regenance.

The fact in the process C16, shown in the C17 in the C

VK5GF has commissioned a similar transmitter, but is using EF50s in place of the RL7s with equally good results. The coil data given would probably vary slightly with the change of tubes, how-



C1—75 pF. variable. C2, C3, C4, C5—0.01 uF. C6, C7—0.0009 uF. C8—0.001 uF.

C9—50 pF. C10, C11—25 pF. variable. C12, C13, C15—500 pF.

C14-25/25 pF. split stator. C16-9/9 pF. split stator. C17-40 pF. C18-See text.

R1—50,000 ohms. R2—200 ohms. R3, R8—20,000 ohms V.D. R4, R6—20,000 pF.

R4, R6—20,000 pr. R5—16,000 chms. R7—20,000 chms, 2W. RFC1, RFC2, RFC3—Four pie, R.C.S. RFC3. RFC4—Eddystone v.h.f. type.

> HARMONIC REDUCTION WITH STUBS

Hams who are having trouble with harmonic radiation sometimes can make a substantial reduction in the amplitude of even-harmonic radiation by connecting the open end of a shorted quarterwave stub to the antenna feeders or transmission line. L1-18 turns 14 g. bare copper, 2" diam., 15" long.
L2, L3-3 turns 14 g. bare copper, 2"

diam., ?" long.
L4—Hair-pin, 3" long, 1½" wide.
L5—Hair-pin, 3" long, spacing adjusted to obtain required grid Ma.

L8-4 turns 10 g. copper, {* diam., 1}* long.
L7-11 turns 18 gauge enamel, {* diam.

RL7 Socket Connections†—

1, 7, 8—Earthed to one side of socket mounting bolt.

2—Plate
3—Screen by-passed to 4 and 5.
4, 5—Earthed to other mounting bolt.
6—Grid.

8—Filament, Key-way in line with pin No. 1. † For further details on RL7 refer to "Amateur Radio," November, 1948,

For further details on RL7 refer to "Amateur Radio," November, 1948, page 8.

The function of such a stub is to pre-

sent a short-circuit to all even-multiple harmonics of the transmitted frequency, while presenting a high impedance to the fundamental. Thus the stub causes no detuning or power loss, but eliminates the even-multiple harmonics.

The stub may be connected at any point along tuned or untuned transmission lines of either the parallel wire or the co-axial type. A "T" connector will be necessary for tapping into coaxial lines.

If the transmission line is being used for more than one frequency band, the stub line may be made long enough for the lowest-frequency band used, and a shorting bar may be used to set the case, the study of the lowest-frequency band used, and a shorting bar may be obtained by grounding the shorted end of the study of the study

Low Drift Crystals

FOR

AMATEUR BANDS

ACCURACY 0.02% of STATED FREQUENCY

3.5 M/C and 7 M/C Unmounted .. £2 0 0 Mounted .. £2 10 0 12.5 and 14 M/C Funda-

mental Crystals, "Low Drift" Mounted only £5. Spot Frequency Crystals

Prices on Application

THESE PRICES DO NOT INCLUDE SALES TAX.

Maxwell Howden

15 CLAREMONT CRES., CANTERBURY, E.7.

1949 Trans - Tasman Contest

RITLES

1. The Contest will commence at 6400 hours G.M.T. on Saturday, 4th June, and continue until 0200 hours G.M.T. on Sunday, 5th June.

2. The Contest will be divided into three sections, namely, Phone, C.W. and Open. The Open Section will be a combination of both Phone and C.W. operation. A contestant may enter for each or all sections provided a separate log is submitted for each section entered.

3. Operation may be on any of the licenced Amateur bands, but transmis-sions will be in accordance with the

Regulations existing in each country 4. A six number serial group must be exchanged before any points can be claimed. The first three numbers, chosen by the entrant station, shall be retained throughout the Contest. The second three numbers will commence with 001 for the station's first contact, 602 for the second contact and so on.

5. A station may be operated by more than one operator, provided a separate log is entered by each operator

6 SCORING.—Three points can be claimed for each complete exchange of numbers. The total points will be mul-taplied by the number of ZL districts worked on each band in the case of VK stations, and the total number of VK districts worked on each band in the case of ZL stations. For the purpose of this contest, the prefixes VK2, VK3, VK4 etc. will constitute districts, except VK5s in Darwin which will not constitute a separate district. ZL prefixes will likewise count as multipliers for VKs.

7. LOGS.—A log showing, in the following order: the Date, Time (G.M.T.), Station Worked, Band Used, Number Sent, Number Received, and Points Claimed and a Summary at the end must be forwarded to Box 2611W, G.P.O., Melbourne, to reach the Contest

Committee not later than the 4th July. 1949. The envelope should be endorsed "Train-Tasman." The log must be signed by the operator and include a statement that he has complied with the Regulation of his country. The in-put to the final stage of the transmitter will also be shown

AWARDS. Attractive Certificates will be awarded in each Section to the outright winners in Australia and New Zealand, and also to the winners of each Section in each District of Australia and New Zealand The outright winners will not be eligible for the District awards. Further District certifi-cates in each Section may be awarded at the discretion of the Contest Com-

Notwithstanding anything contained in the Rules, the Contest Committee of the W.I.A. shall have the power of final decision in all matters of dispute or breaches of these Rules.

Results of 1949 National Field Day Contest

It is pleasing to note that this year (old hands on v.h.f. field days), went greater interest was shown in this Conproperly prepared complete with three test and the commercts of those who went out with portable squipment augers well for the 1950 Contest. However, still more interest could be taken, for it is an effective way of trying out that portable gear that may be required for some sudden emergency. Congratulations to the Section winners this year, who in most cases did a-good job under

The C.W Section winner, VK3UM/ 3UH, did the trick for the second year in succession and ran up the best score of the Contest. They journeyed to the same location again. One Tree Hill in the Dandenongs and equipment consisted of a Type 3 Mark II. with 15 watts on 7 and 14 Mc. and a 6J5-8L6 rig with 30 watts on 28 Mc. Unfortunately 28 Mc. was not open and no contacts were made. The Eddystone S640 no doubt. contributed largely to their good score, as well as the long wire and 3 element rotary for 28 Mc. Continents worked were Oceania, North America, Europe and Africa on 7 Mc., and Oceania, Europe and Asia on 14 Mc.

somewhat trying conditions.

The Phone winner, after a difficult start in a gale, ran up a very good score with only ? watts into a four stage rig ending in a 1625 This party VK7SK/SJ. used a Phillips' bandswitched receiver and a 120 feet per leg vee beam which helped them to contact the greatest number of stations. They worked Oceania, North America and Asia on 14 Mc.

The Open winner, party VK4HR/RT

stage transmitter using an 832 with 18 watts c.w. and 14 watts phone on 14-28-50 Mc., and a BC459 with 30 watts on 7 Mc. The receivers were a BC348 on 7-14 Mc., 10 valve home-built on 14-28 Mc., and a modified SCR522 on 50 Mc. Antennae consisted of dipoles on 7 and 14 Mc., folded dipole on 28 and two element rotary on 58 Mc. They worked Oceania on 7 Mc : Oceania. Asia. Africa, and North America on 14 Mc.: and North America on 28 Mc

There is some talk among the NF.D boys of hiring caravans next year! It would appear they may need them to keep up with Tibby. To the other entrants, we say "Thank You" for forwarding the logs.

SCORES

C.W. Section VK3UM/3UH 2 28 VK4HR/4RT 20 6 224 VK2PA/2SH/2ASF VK4JA/4RC/4RL 2 20 5 178

VK3ADB/3YS 3 13 4 133

FBO	382	Sec	MUII			
VK7SK/7SJ	,	1	53	3	224	Pb
VK3ADB/3YS		3	21	5	185	22
VK3AN/3VC		3	23	4	157	95
VK3LN/3TF		2	13	3	103	29
VK4HR/4RT		3	7	2	77	279

Open Section

VK4HR/4RT	4	27	6	251	Pts.
VK2PA/2SH/2ASF	3	27	6	243	19
VK3ADB/3YS	3	43	8	218	91
Figures above repr	rese	nt in	th	e fol	low-

ing order: Bands worked, contacts, continents worked, and total score.

AMATEUR RADIO

For the Experimenter and Radio Enthusiast.

RADIO SERVICEMAN WANTED

Competent with Electric and Battery Sets

A good position for keen man in good town

HARDINGE BROS.

Ptv. Ltd. Box 201, HORSHAM

FREE - NEW 1949 CATALOGUE OF WORLD-FAMOUS EDDYSTONE COMPONENTS



Send NOW for your copy of this invaluable Catalogue

> This new 1949 Eddystone Cataloque will prove of great assistance to all experimenters. It provides full details of world-famous Eddystone Components — those precision - built components that give you the best service possible for as long as possible, without any trouble, without any further cost.

Now Available from your local Distributor

- VICTORIA: J. H. MAGRATH & CO., 208 Little Lonsdale St., Melbourne,
- . N.S.W.: JOHN MARTIN PTY, LTD. 116-118 Clarence St., Sydney.
- N.S.W.: GEO. BROWN & CO. PTY. LTD., 267 Clarence St., Sydney,
- . N.S.W.; PRICES RADIO, Angel Place
- Sydney.

- O'LAND: CHANDLERS PTY, LTD., Cnr. Albert & Charlotte Sts. Brisbane
 - WEST AUST .: CARLYLE & CO. LTD. Hay St., Perth & 397 Hannan St.,
 - GERARD & GOODMAN LTD... 192-196 Rundle Street, Adelaide.
 - TAS .: W. & G. GENDERS PTY, LTD. 53 Comeron St., Launceston, (Also at Hobart).

N.S.W. Factory Representative:

J. B. CHANDLER Pty. Ltd., 116-118 Clarence St., Sydney.

Australian Factory Representative: R. H. CUNNINGHAM & CO., 420 William St., Melb. C.1.

FEDERAL, QSL and DIVISIONAL NOTES

NEW SOUTH WALES Secretary.-Dick Down (VK2RP), Box 1734, G.P.O.,

Sydney.

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts.,

VICTORIA

VICTORIA.

WICTORIA.

WICTORIA.

ON TOWN COMM.

Control of Common of Common

Leongatha.

BUT BROXDONATE

All Amaleurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts. VKDWI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No fre-quency checks available from VKDWI. letra-State working frequency, 7175 Kc.

VX3W1,-Sundays, 1130 hours EST 7196 Kd

wit,-sundays, 1130 hours as 1196 Az-Individual frequency checks of Ameteur Stations given when VKSWI is on the air.

VKWH -- Sundars, 0930 hours EST simultane-cusly on 3750 Kc, 7190 Kc, 14,340 Kc, 52.4 Mc, and 144138 Mc, Fraguercy checks are given two nightly weekly, and the times are announced during Sunday broadcasts. TON Kc, channel is used from 1000 to 1836 hours such Sunday as VK4 ruery service to 4W

VKSWI,-Sundays, 1000 hours SAST on 71% VK5DW on Friday evenings on the 7 and 14 Mc bands.

VXSW7.—Set 2 p.m. Sun 9.30 a.m. W.A.S.T between 7000 kg, and 7200 kg, No. frequency checks available VXTW1.--Second and Fourth Sundays at 0830 hours EST on 7174 Kc. No frequency checks are evallable.

VK2GR

During February New Booth Wales forth on the Control of the Contro

Federal President .- W R. Grosov, YK3WG; Federal Secretary .- W T S. Mitchell, YK3UM, Bex 2611W, G.P.O., Melborres. OUEENSLAND Secretary -W L Stevens VK4TB, Box 638J, G.P.O.,

Manting right—Last Friday in each month at the State Service Building, Elizabeth St., City. Divisional Seb-Editor: F. H. Shannon, VK45N, Min-den, via Rosewood.

SOUTH AUSTRALIA Secretary.-E. A. Barbler, VKSMD, Box 1234K, G.P.O.

Meeting Night-Second Tuesday of each month at 17 Waymouth St., Adelaide. Divisional Seb-Editor.—W W Parsons, VKSPS, 483 Esplanade, Henley Basch

WESTERN AUSTRALIA Secretary,---W E Coxon, VK6AG, 7 Howard St., Perth

Moeting Place.—Padbury House, Chr. St. George's Ter and King St., Perth Meeting Hight.—Watch the Monthly Bulletin, Divisional Sub-Editor -- VK6WT, Mr D Couch, Mary Street, Watermans Bay, W Australia.

TARBARDE

ecretery.-- J Brown, VK7BJ 12 Thirze St, New-town, Telephone: W 1328 setting Might.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool 51, Hobart

Divisional Sub-Editor — Capt E. J. Cruise, VX7EJ, Angleses Barracks, Hobart Northern Correspondent.—C. P. Wright, VK7LZ, 3 Knight St. Laurcaston.

- SILENT KEY ----FEDERAL. DX C.C. NOTES

Zones Countries

By the time this appears in print, most of the DX C.C. stickers endorsing additional confirmations of 20 countries, will have been fessed to those entitled to them.

TOTAL COOL

TROBU	(27)					109
YEABS	CHRY					101
VESKW	(84)					101
	,			w.		
			U,	ж.	W	Countries
						134
VESCN	(3)				40	
VKSVW	(18)				 39	127
VKIRZ	(14)				 39	127
VKakk	(10)				 39	112
VESED	(7)	-			 4.0	116
	(24)		-::		30	116
VK4DA			::		 314	113
VK2QL	(18)				40	112
*ALEGO	(10)				9.5	106
VE4HR	(35)				9.0	104
VKSKB	(81)					104
			OP	225		
					Zones	Countries
VKSDI	(2)				 40	180
VKSBZ	(6)		::		19	153
VESEX	(1)	::	::			188
VESHO	225				38	186
VKCRU	an		• •		 37	125
VKCKU	(11)				39	188
VKAJE	(18)	* *			 28	188
VKSMO	(8)				 39	
VK4HR	(9)				38	126
VKSKW	(19)				 39	120

VEX OP 168
VEX OP 168
VEX AHM 106 COUNTRIES LIST Until further notice, the only official prefixes sped in Germany are as follows— DLS traited of D2 (Bettish Zone) DL4 instead of D4 (American Zone) DL5 Instead of D6 (French Zone)

NEW OPEN MESCREES

Things are still very confused regarding officially licenced stations and so far as is shown DA and DK calls are being used by ex-D stations and pirates. It is proposed to issue the other DL prefaces at a later date to those ex-D Haun. Substitute VM for All prefax for Syria.

SWISS CONVENTION

The following are extracts from a letter from Mr. J. Dobbyn, of the P.M.O's. Department, who is the Australian representative on the Frequency Board at present sitting at Genera, Switzerland—"I attended the 19th Australerary of the Swiss Section of the I A.B.U which was held at Friedom on Sonday, 30th January. At the invitation of the des Amateum (U.S.K.A.), I represented both the P.M.G'a. Department and the W.L.A. as a member of the original committee. It is of interest to memalon that five continents were represented at meeting, and after dinner at the Botel St 'VE' was called on for a talk on Amateurs in rn was earlier ou for a task on amadeals in Againstia, which was very well received and grain interest was shown in the W.I.A's, history and development. I was asked to convey the best wishes of the U.S.K.A to the President and inscribers of the W.I.A's. THANK TERM AN THREE TERM

Eisewhere in this issue appears the rales of the 1949 Trans-Tassman Contest, a contest held to pro-

mode closer friendship with our bear neighbours, the ZLL. This Contect has been put hack to the first week in June so that it does not follow too closely on other interactional Contests. In it only the constitution of two we end to the contest of the contest of

FEDERAL CONVENTION

The American Processor of the product of the product of the control of the product of the produc

W.A.B. RULES

We restrict that we are at present unable to sublish the Boles of the W.A.S. Award due to de-pending the substance of the preparing for the Pederal Council, will be published as soon as by Federal Council, will be published as soon as possible. Credit will be strictly given in order of the date of working W.A.S., so don't feel you will be not given due recognition of your adult-

F.I.A.T.S. CHARTS

As a result of a section put by Pederal Council to the Divisions, it has been decided to continue the publication of time shearts. How lang they your Pederal Councilies have your views or against improvements. Dr Orces would be deeply appreciative to receive your comments also, so please send them in.

AMATEUR CALL SIGNS AMATEUR CALL SIGMS The following list will be the first supplementary list to the new Call Book when it is available. December and January amendment lists will be included in the new publication, which should be active to amend with its binak interiores. The P.M.G. are to be complimented on making this ficility available to enable members to keep their

Amoteur Radio; April, 1949

New Issues

VKIADS-R W Sterrett, National Antarette Exmidition Wassersta Island 1FE-A R BURTON, National Antaretic Ex-1VU-R G F Gatt, National Antarctic Ex-

VK2AFD-D J Fisher 155 Albany Rd Petersbare 2AJR-J C. Turner, 26 Roberts St., Januali, 2AJT -K F Pulling, Post Office, Coffs Harbour 2AKJ J S Kemp, 34 Irvine Cres. Rude. 2AMA- C. L. Weiser, 31s Sallaberry Rd., Ken-

2AMJ Miss J L. Jirs, 87 Second Ave., South Lidcombe. SARV-W Graves, 169 Clovelly Rd., Rand-

SANK-N. W inhers, 100 Chook Street, Much 2ATM-T. W Marks, 11 Woods Street, Much 2AWB-W J M Baille, 85 Harrow Rd. Bexler 2AWF-W P Long, 26 Parkham St. Moore Park
2AWZ-D. Andrews, 41 Cox's Rd., North Ryde

9 A VC -- Portable of VK 2 VC VRAACH -C. W Smyth, 689 Bell St., W Preston. SACY-R C Pinber, Etiwands Ave., Mildury SAVID-A W Doble, 200 Proth Rd., High-milele SAVID-T F Wrbb, 2 Eliza St., Black Rock. SAWC-W J Currie, 12 Stevenfore St., William

stown, SMG-K W Jane, 20 Coolganile Avr. East VR4BP—A L. Berry-Porter, Grant St., Atherton 4FP—J F Pickles, 61 taverpuol St., Clayfield. 4GA—C F. Gocdall, Cook St. Atherton 4JF—J F Hanne, 38 Marrosan St., South

ANF-V F Herkman, e a Mrs. Sandall, River Park, Fajirbeld, 420-P R. Oliveri Jafoon, via Innistail VESSR-E, J. Risely, 45 Edward St. Belghton. 51P-1₂. J. Pieser, 54 Haisbury Ave, Kingsmood,

nley. Grachan, Hospitul Rd., Port Aug SED-R. D. Robertson 21 North St., Freweille ARY-R. Bargess, e.a. Sallabury Rotel, Salla-

VKSKU-R. H. Campbell, 16 Doonga Rd., Clare-YKIKA-K. E. Millin, Cr Minallo Ave, and Lock-ner St., West Hohart. VKSRO-R M Ellison, Papuan Musionary School, Bridgma, via Port Moresby, P.T.

Alterations-VK24RS-J W Howes 61 Outley Park Ave. Outley 2ABY L. Scutland, 28 Figure Ave., Randwick. 2ADB-D. C Caldwell, 1 Fletcher St., Strath B-ld 2ADG-E. J. Dark 109 Arbeitus St. Caples 2 lb: J R Williams, 82 Auckland St., Begs. 2ADK—E. G. Pagh, 308 Morrison Ed., Ryde, 2ABK—E. L. Pinney, Flat 6, "Connell Count," Connell Point Rd. Sth. Horstrille.

L. Weiser, 31a Salisbury Rd., Ken 2AMZ-H N Voorg, Rardella Cres., Narwee 2AOF H. C. Frysman, S. Canterion St., Rudstone Park 24WW-4 W White, 41 Oahfil St., Bererley Mertin, Lower Hangaron Creek, vie 2LC-N. Glasscock, 95 Reaconsfield Rd., Chata-Littleighn, 3 Emmerick St. Leich.

201-5 T Hine 18 Bridge Rd., Homebush Brusilsent, Cr Jaminson & Granger North Curl Curl 201-X to North Curl Curl 280-4 R Gray, Lot 65, Jean St., Chullora 284-W E. Salmon, 106 Flora St., Kirrarec 287 W C. Hall, Griental Hotel, Cook's Hill 27G-A. T. Geldle, Public School, Mummolaum

210—A. T. Geldis, Public School, Swimmugans, via Custon,
217—J. T. Toold, Alan St., Rydelmers,
217—M. H. Mysers, 20 Kardinia Rd., Clifton
Gardena, Moman.
311W—A. W. H. Wielpt, Air and Ground Radio
School, R.A.L.F., Bullerst.
21.—B. G. Chandler, 6 Carrington St., Placoe Vale.

2ADR 1 R Roy, 25 Pine Avr., Elwood.

3AFT,—F C. Lambert, 281 Main St., BairnaSAFW-R. C. Treson, 26 Valderin St., Kyneton SAKC-G. J. Griffiths, 50 Holmes Rd., Mounte JAMK-H. W Rapram, "Amfeld." Bernborough Ave. Balwyn SANL-E. L. Blackmore 240 Auburn Road. 34RY-R. J. Ricks, 785 Mato St. Ballaret. W R. Moffatt, 2 Maroura St., East Malvery. J. Millboorn, Sa Melville St., Haw 2DN-D. Newton, O'Shannessy St., Nunawading. SDP-J. M Farrer, Deep Lea, via Stawell, 2DW D. W Davey, c.o. Woodend Theatre, Woodend SIV E. R. Ridgway, 44 Inkerman St., Ballarat SIY Sydow, 28 Fosbery Ave., Caulfield North SEE S. T. J. Kerby, 17 Bayview Ave., Auburn A Oxley, \$92 Riversdale Rd., Surres 2DD_F C Bennett, 69 Shady Grove, None Jenkinz Churchill Island, via New haven, son Bev. White, "Paralia Wahhar 97 Income Close Alphine H. Jones, 36 Harmed St., Box Hill J L Coghlan, 488 Dorcas St., South Inglis, Jeffrey St., Bentleigh 3WS-P G Scown, 9 Kinape St., Brighton SEF-L. H. McIntern, 62 Chotward St., West

Melbourne

\$TO-O. R. Smith, 10 Rornby St., East Brighton

\$TN-L. R. Naylor, c. o. J. Steffin, The Boalestrand, Maribymong,

\$EY-W F. Bongeet, S. Ourkon, St., Ivanhoe,

\$E(Al-A. F. Kenney, 602 Rent St., Maryborough,

\$4.7F-G C Calirs, Londowne Ter., Newmarket, 4FH-J F Bull, King St., Box 53, Nth Mackay,



The hem specially catered for.

- Quality cards at economical prices.
- · Prompt service.
- · One, two or three colours if required.
- Interstate orders handled.

Dee Why Printing Works

67 Howard Avenue, Dee Why, Sydney. Telephone: XW 8367. Proprietor : GEOFFREY BOWER

IF YA WANTA GET RESULTS

QSL CARDS

The DEE WHY PRINTING WORKS is making available to the ameteur experimenter a special OSL Cord Printing Service. Knowing the requirements of home, we are confident the service offered will be unsurpossed in Austrolia.

Cards can be printed to your own specifications, and if illustrations or blocks are necessary, our Art Department can produce these for you.

4:W-d, H. Yarnes, Hope St., Choktown.
41M-L S. H. Maillinson, c/c. Mrs. Barbr.,
"Böbynaton," Waterview St., Button Park.
41M-L X. Page, 16 Ternde St., Phddington
41T-A E. Carter, Coomleys.
4PK-A. Johnson, Gadara St., Headron.
4RL-R L. Guttornson, 61 Manilla St., East

Brisbane.
4EU-W W. Newman, Cope St., Stuart, via
Townsville.
4WL-W J. Cromle, 482 Squadron, R.A.F.,

49T. Forest Trans. 412 Spanken. EAP.

40T. Aphilips. 1, 40 Three St. Spenken St. Spanken.

VERNEL J. Gried I is delicate Trr. Migili and College Spanken. Application of the C

VESNE-S. P WHIGH, Ou First Park.

BYN-E. E. Gry, Lakin St. Wagir

BYN-E. P. Gry, Lakin St. Wagir

BYN-E. S. Morrison, 61 Arthur St. N. Hobert.

TIR-J. J. Durkin, Or Leptus & Riances Rds.

Matthews Rds.

Matthews Rds.

TYR-F W. Hand, c/o, 7NT Private Mail Bag. Cancel lations-

VKIAA—E, McCarthy, H.M.A.S. Wyatt Earp, National Antarctic Expedition.
VKNIR VKSQP VKSQX
VKSWQ VKSRU

HEARD ISLAND ON 50 Mg.

A manufector by YARST from YELPT on Manufector by Manufect

This news should be of great interest to all the v.h.f. boys and looks as if VKI will soon make contact with Australia.

NEW SOUTH WALES

NEW SOUTH WALES
The Johnny person menting of the Dirision
Figure 1. The Johnny person menting of the Dirision
Figure 2. The John State of the John State
State 1. The John State of the John State
State 1. The John State of the John State
State 1. The John State of the John State
State 1. The John State of the John State
State 1. The John State of Land State
State 1. The John State of the John State
State 1. The John State State
State 1. The John State State
State 1. The John State State
State 1. The John State
State State State
State State
State State State
State State State
State State State
State State
State State State
State State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State State
State
State State
State State
State State
State State
State State
State
State State
State State
State
State State
State
State State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
State
S

SOUTH ZONE

As usual this mouth I don't know where to start with these notes. Rither all the Name in this district are defonct or else are engaged in experiments which are "top secret." One last appeal, if you want here notes to continue, please give me something to write about. 2 MJ is still active on 80 Mr. and to write about. 2WJ is still active on 50 Me. and 144 Me. with an occasional trip to 388 At present basy looking for a systerious notice coming from the control of the con

tween Australia and USA. Those two bega certainly get around pilot gain length grid profit gains and particle gains and particle gain and particle gain and particle gain and particle gain. 200 beate on the hop later a spoil is heapital. Hope you are feeling it again. Home AV Mr. again, soon with a row transmitter image of the control of the particle gain and the gain

any crystal will work as a harmonic oscillator and the second triode of a 6J6 to fully drive an 807

FASTERN SUBURBS ZONE 2WR has lower and grar for his beam assembled ready to more off to new QTH, Alan low't losing any time. 2FM active on 30 phone, also atms to do some work on siz. 2TF not so active as usual, spends more time building and arranging grest. TME heard on ten with sice quality phone, he is one heard on ten with nice quality of the few using ten in this area. phone, he is one TAIG using ORF of the few issing ten in this area. LARG using QXT on 40 phone, getting good reports from all States, rig is 58 e.c.o, and 6 watt amp. 5390 not heard such those days due to pressure of work THF heard inquiring on the merits of types of v.Lo's. Harold active on 10 phone 2CE divides his times on the air between 20 and 40, 2CF brand once on the lat powers for and 40. 2075 based more from the first promise with his plane, OK and the first produce with his plane, OK and the first produce with his plane, OK and the first produce with the plane with the first produce and the first produce with the first produce

NORTH SHORE ZONE

2ADV has taken a new lease of life, and is back in the swim. He is suffering from a pleate, incident-ally. So sm I, for that matter. To call them "dingoos" is positing them! 2ZB very active on "dispose" is prising them! 222 very setter on 57, rumble, a DM smathen with hisself, complete with self-washed prime. 271, and with abortised enters and all the works. 278 operating at sur-thing between 13 and 80 per cent efficiency at list are location, and the works. 278 operating at sur-plet, the works. 278 operating at sur-plet, and the self-washed prime and 2700 has locate, such as the self-washed prime and the locate game 500 smashing through the QBM with his figurates from turn pine quality phone. 237, now prosed decity with new Tu op, and reagand 10 miles of the self-washed prime and the 10 miles of the self-washed the 10 miles of the self-washed 10 miles of the 10 miles of 1 ler k-y or mike. Congratications, Mr. and Mrs. 23X1 2BG institute for past month—his beam down." Old "Dud," 2LQ, reported to be diving into the six moter field, EP3 is a new one on this hand also, I hear.

FAMB now up to 31 and 71 which, with his antenna, is 1h, indeed, He's busy building a new centry hack from N.Z. He's busy building a new centry hack from N.Z. He's busy frequently under his mobile marine call of ZXS, on the "Swra." Law Pager (ev. 4LP, JSR, YLV, JALF, etc.) is now permanently back in XS, W.—sups he has taken out eliterably papers and is availing new call out citizenship papers and is awalting new oull 24W breed now and again giving for a hidden 24WB appearing on forty and six and suagring aome niew 6900. 24XB has his new receiver work-ing Lb., and has an far designed 47B different transmittens using 897s in the final, but is still not sure which one to build. Use a study 45. Brian it'll work some good DX if you can rhombic to hitch it to.

rhombic to hitch 3t 4a.

It is most responsible Subures ZONE

It is not never to here of the passing of one of one of the harden of the harden of the passing of the control of the contro his quadruple conversion apper going on 144 by now 2AER is on infrequently What's cooking Nox! 29C is going strong with his f.m. work. 2TD has removed to the Penshund area; no Han Redio Ras I 2DW, haven't heard Joe on of late. 2BG is doing some work on 20 metres. 2ABU, have you got that pole up yet Ourley? 2GY, bow goes that 14 tube receive?

goes that if the receiver?

Well, SERG NOTES BY VEXQU.

Well, SERG NOTES BY VEXQU.

Well, SERG NOTES BY VEXQU.

For a period, so here's hoping we can hold your

clarent. Remarker, it is your celonam and N can

clarent. Sermesher, it is your celonam and N can

show the control of the control of the control

like to supply the grav. To date, it mainly has

aboven the chings of the VEX DZ grave, but clare

your dope per letter, over the air, or by felephone

Two DV control have been under way show the last notes by 2ACK, the first week-end A.R.R.L., and the B.R.R.U. Conditions for B.E.R.U. contest were not good and there did

expens to be the waver Empire Stations participating.
Zhi MB and ZhEFA were howing them over A new call in contents appear to be VESFF, who was very active. VESED, VESDI amongst the top. VESED had over 500 contacts for the first week-red, of A.R.E.L. content. 201 made 31 centrals and 5.3 Mac for that week-red, where the content of the participation of the content 8.5 Mc. for that week-end, and boping that band comes out of its lethergy for the accord week-end. My latest 3.5 DX is ORDAG and KV4AA. Bund is poor at present. Stations operating during the month on 14 Mc which are worth watching for, are; R8188 (new Heences), AC4YN, MPTYP, HPIPL (Pearl Island) VPSAA. On 7 Mc MP4BAC is

5 a.m. heard around Cards are being received from CSEA and VK9NR and shortly it is hoped cards will be arriving from FUSAA, supplies of which have now been organised. FUSAA, supplies of which here new been opposited.
Latest scores and new mass are ZLEPA 40 more
Latest scores and new mass are ZLEPA 40 more
VREAUX 110 countries (VPSAK in Socialis,
VPSAP Antigras, UPPSAA Arthur golog to swin
VPSAP Antigras, UPPSAA Arthur golog to swin
Came 40 for that card he needly, VESEE 10
(false waiting for two cards for WA.Z.), VXIQL
14 sections are contacted to the countries of the contribution of th A certificate which is original, and worth having, the Canal Zone Radio Society, originally for 10 is the Canal Zoor Radio Society, originally for 16 KZ contacts, but now raised to 23. Noel Mortenero VRSPL advises that his new ad-dress is flow cit, Neighardies, Touge Jeland. He three years and possibly permitted best another Well, geng, that's about the lot for now, but let's have your DX gen for these notes. My fels-phone is UM 661. Herwis koping the bands in-

prove and good hunting NORTH COAST AND TABLELANDS

The "old man's band," 80 metrs, is becoming popular in the northern none 2AFF and 2ES have recently migrated 2DE completed new vig with pp 867s in final and cathode modulation, etill uses Post receiver, will be inactive whilst away in VET, 2DE received and active on 80 only, will

BIX would's proceed and active on 16 only, will be a second to the control of the

NOVAMENT 2005

ADT has inspected by grants as quality as a second of the property of the prope NEWCASTLE ZONE

post-war and wants more! SCN is not of the gradest post-war efforts has at last worked several stations on c.w., it's pleasing to hear of a resi lob timer making a conchance, but it really is about time. \$XQ working 10, 26 of an ad 80, gives the boys some fast more on 10, has been heard at 8 a.m. on 20, the bog is biting \$XZ and \$XR made a hursted with it. Neversalis and up in SAPS' shack with SFP, 2CL and 4KW. **COALFIELDS AND LAKES**

COALFIELDS AND LAKES

Thanks to then \$4.000 for a monthly note from Goaford, \$200 busy building mobils and ported \$6.000 for \$1.000 for \$1.0000 for \$1.0000 for \$1.0000 for \$1.0000 for \$1.0000 for \$1

fine results on 10. 2KZ working 10 and 6, trying new stacked array 4 over 4, but hard to judge re-sults as conditions have been indifferent. ITE after a session on 10 bas started up on 6 and hopes

atter a search on the sag started up our con-to get in beam going.

2JZ no news of Alex. 2VU was last heard of re-building for 80 Me. and hoped to improve the signal 2AJB still chewing R on 40, but the hops trying hard to talk him down to 8 2YO, 2PZ or 2ME what about some of 210, 27% of Sain what about some? Initial thou as active in past month, domestic choices before DX is the order. Nevertheless manages to work all bands 20 to 80 p.us 6 and 10 in the spare time. SYI, is right of the air, a re build from scratch is

The refer and the state of the

JAKE heard during one Sunday, do believe a type Mark III is responsible for the Size c.w signal DW Temora building a new modulator using stal SOW Yenora building a new modulator using stall beautiful properties of the stall properties of the stall of the stall properties of the stall properties of the rivined bands, but are very active on 6. HT has a new action aams as the one used here for a cuty of year. New receiver planned but alchaes a properties of year, and the stall properties of a stall properties of the stall properties of the ASR skill buttern and facts that not been heard.

Z. O. 102A is 2 (WESTIERN ZONE)

Z. O. 102A is 2 (WESTIERN ZONE) Dollastying and
trivity in fluctured was great during and Manh
we report on seal of these till not be spore,
not been seal to the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal
to the seal of the seal of the seal of the seal of the seal
to the seal of the sea WESTERN ZONE

make 144. SOUTHERN ZONE

Zone offiers Nosi Arnold VK2OJ of Albury has
been forced to resign the position due to increasing
healness problems and it is hoped to appoint his
successor in the near future.

VICTORIA

Quite a few members were present at the March general meeting of this Division, including many visitors from the country and some from interstate After dealing with general business, a short dis-busion, conducted after an address by Charlie Quan hwQ, looked into the various types of relays and NOW, looked into the various types of relays and their practical application to Amsteur genr. Quite a few practical points were proposed for operation of the relay, no matter where it is inserted in the appears and Charle appeals to those who mere to so, these several points, to write a short note of, it, so that he can eccupile an article for "Amsteur Do it. 11. so that

Built. A gracing quiz someon was held after this and some of the members brought forward their pet worries, which was promptly asswered. If you desire this festure to be included at foture general meetings p.case acquaint the Secretary.

This Division commenced the Morse Code Practice This Division commenced the None Code Practice Transmission on \$500 Kc. on Study, 6th March, Transmission on \$500 Kc. on Study, 5th March, Transmission on \$500 Kc. on Study, 5th March Feither at the time each Studie is to be a ceptilar feature at this time each Studie is greatly appreciated. Policywing the State Convention, when a result Policywing the State Convention, when a result provided the State Convention, when a result provided the studies are studied to the state of the State Convention, and the state of the State Convention of the State Conv

Student and Associate Members can assist in this EASTERN ZONE PORTABLE CONTEST The Eastern Zone Portable Contest will be held during the last week-end in April. The frequencies used will be 40 and 80 metres, with the object of fostering the construction of portable equipment suitable for emergency work. The Eastern Zone lavins other Zones to assist in this contest, and suggrests that they might use the same week-ead a similar contest of their own. .

- Three prizes, a pair of 907s, six only strial-slay broams turnbuckles, and an EP50, have been donated by 3PE, 3ALS, and 3AEP respectively, as last rad, and 3rd prizes for the Eastern Zone
- portable stations. Times of operation Times of operation will be from 1 p.m to 5 p.m. on Saturday, 30th April, and Sunday, 1st May
- May Introdung competitors will be required to furnish the Zone Secretary (3QZ, G. Colley), by the 9th April, with particulars of the locality in
- which they expect to operate as in accordance with pages 6 and 7 of the PMG Operators' Handbook, items 38-49. Habithood, items 35-49.

 All equipment used must be operated from a portable power supply and must not be imple-
- - portable goore supply and man' not be implemented in any axy from power makes. Pulma for operation will be allotted for one extended to the control of the c
 - stations may abbreviate thus, or mention it in the text of the message | \$11 stations must give their location. 9. For the purposes of judging, each station will be required to formula a copy of their logbook to the Zone secretary by the 8th May, 1949,

MORTH EASTERN ZONE CONVENTION
Using to the great activity of this more both
before and after the Convention, the none correposition 3 18% was not above to everyor three notes. possibility of the man not now to compute more more. His cultural activates in preparation for the Con-vention has doubt had something to do with this also I have arrival of the Melbourne gaug in NBM's section to uneversal of the Melbourne gaing in mana-date the arrival of the Melbourne gaing in allowated rat, the ton-ratios got under way and disminact the homes- paid or time to dash along in 35.0.W's abard in hear the broadcast from 381 Mrs. Nicoh, abard in hear the broadcast from 381 Mrs. Nicoh, abard in hear the broadcast from 381 Mrs. Nicoh, abard in hear the broadcast from 381 Mrs. Nicoh, and Jeyer Shoper. The little task hear in the anal Jeyer Shoper. The little present of the second of the second of the types present of the second o ground after seving the types present (I wonder if this means 31K—Editor) but the ion was more soful than the W I A news. auccondul than the W.I.A. mess.

The lower provided by mane-host the Bollard family wont down well with the help of the local how and ARK may be able to meet the leftl, lot he was started beforehand about certain gentlemen, and kept a good eye on the beet tap and had the

Secretary shadowed. Associate Jim Harrington brought his XVI., Ismily and a bloode, but the in-

After a quick visit to SABG's shack SABA/YS, SUL and SAHG got cracking and established 144 Mc. stations on the surrounding him and mobile working at fast speed was demonstrated. Atmangemonie were co-ordinated by a base station and four mobiles, with mobile to mobile working, which gave the necessary signal to out-stations to return Miller's are to be congrutulated on their excellenthe amingtons, but John won't come clean

SLI was elected President of the Zone after ac 3Li was elected President of the Zone after acting as President for the last few months. KM counding get out of being Scenetarry, unite 3ABO was re-acted Zone Correspondent and fell down on his last job. Remember the sone look up on the first sunday in the thought on approximately 7630 Ko. at 1830 hours

The terror of the production of the production of the production of the terror of the

FAR NORTH WESTERN ZONE

Members in this Kom have been rather inactive once the past three months, bearetary SMM appear some time in the sick like. He has now recovered and firm all accounts has minaged to get to be stack and blow some card of the rigs. SPL tax been in his element with the old Type it is open. been in his element with the old Ty W on 46. EAFL in Guyen has been heard on from

THIS GLO-RAD SYMBOL IS YOUR GUARANTEE OF WELL



ENGINEERED PRODUCTS

YOU WILL FIND IT WHEREVER DEPENDABILITY IS PARAMOUNT

GLORAD ENGINEERING SERVICES 186a Riversdale Road (Cr. Robinson Road)

HAWTHORN ---- VICTORIA

Phones DAY: WA 3819

NIGHT: WX 3440



saw the release of the first Australian Miniature battery series—employing entirely new technique in valve construction—and establishing higher standards in receiver performance, at considerably reduced costs.



1948 provided the testing period during which their unquestioned reliability ensured for them a permanent place as valve complement to Australian receivers — a fact exemplified by the following unsolicited testimonial:

"It is now the considered opinion of all who are concerned with valves in our factories that the Radiotron Miniature series are superior to any other type of our experience."



AW.V. is justly proud to announce the release of their Australian-made range of A-C Miniatures comprising: Types 3BE6, 6BA6, 6AU6, 6AV6



This new series will keep "set" manufacturers abreast of modern trends and make practical —

NEW DESIGN * NEW EFFICIENCY * NEW PERFORMANCE

time to time with a phone signal on 40. Fisch Fisher, a new member to the gauge here, recently received his ticket; congrutuations Fissis, hope to hear you soon. 8AOF has closed down and dis-mantled his gear. Tom hopes to leave the district in the near future and will be heading for New Gelma or parts cound there. 8NG is busy with in the near future and will be heading for New Gelican or parts cound there. 420 is busy with the harvest and guess he is kept busy trying to weak-red and also the mid-week one. 53.10 is gradually gathering bits and pécess together and with have a signal on 14 Mc. band in the near future. Has receiver is working quite well on 58 Mc. Noel will be the 50 Mc. man for this area, when he gets will be the 50 Mc. man for this area, when he gets

estiled dem. GEVTFAL WESTERN FORC.

The some thanks to 5 RM for the abt representation that profile force constraints of the profile force constraints of the profile force constraints of the profile force of the profile

time on his hance trees carps --musual house,
33Q (that breaker of skeds) has at last menged to put a 50 Mc signal over the hill lote
Maryborough and is now looking for bigger game.
While is on small, and we self-leve current on the
While is on a small, and we self-leve current on himsel
While wants to know is who powdered the shack
While wants to know is who powdered the shack while he was away? allan decided that Callawadda had been stent one enough, so after channe rabbits out of the rig. sot back into business on 14 Mc. See you next some hook-up, NECOND NUNDAY in month.

EASTERN ZONE
Exactern Zone business will be conducted after the
first round, approximately 8.50 p.m. This will replace the old time of 2100 hours. The hook-up
wit commence at 6 p.m. as usual
302 and 372 have been bosy arranging the
Eastern Zone Portable Contents. How went on 30 100° cell PTA have been been extension to be considered to the control of the con and completed that area, and is develop up on the minimum and the minimum and working the minimum and working the minimum and the minimum and

SOUTH WESTERN ZONE

The following more members were seen a, the State Convention held in Melbourne: VE_S 3BE, 3BE, 3JA, 3HF, 3SE, and set 3UT. Your scribe had his eyes opened to find that Jack arrived about two eyes opened to final list Justa serieses shown in some lists to how you at 120 hours fare the Private pills, that was you at 120 hours from the pills of the pill Exact the ether day that 174 and 20% are planning a free to Y44 way cone, RRO is also going on helidays within near few weeks. ERI, at time of wetling this, is in bod with ear bromble, on 10 fer a ring there with some cheery voice, also as 10 fer a ring three with some cheery voice, also SYT is perting out the eigend with his Ritch ric with the ring of the companion of the con-ciple of the control of the control of the other night to smert the boys on the "gentlement" band once more JPS will be yet at shop, and SDQ band core more. SPS still busy at shop and SEQ bas a Sy at 20 with good results, working Gs or

phone.

3J3 finds lime to work a little on 80, with 3BG on same band, when not walking the floor with new junior op. Have not beard 3H on for some time now, but 3AGD (his brother-in-law) puts in good signal here on 40, so what about getting Leigh to come out of his shell John for a Q50 on 86 some out of his shell John for a Q50 on 86 some aight. Please remember chaps next some hook-up is on the 3rd April at 10 a.m. on approx. 7150 Ke so roll up as we still want more in our book-ups don't let our some down fellows.

Guelong Amateur Radio Club -- There was a g Gasiang Amateur Radio Cisb.—There was a goot attroduce at the Geelong Amateur Radio Cisb whee 341B gave a lecture on "Seccieves I Have Beilt." Fired drew circuits of those receivers on the black board and explained their advantages and disad-vantages. He finished with a precifical demonstration of his 6-tobe home-boilt. "1946 Amateur Juston's rentages. He finished with a practical demonstration of his d-tole hams-built "1940 Amarica" hallow of the Grand Country and the state of the Grand Country and the Grand Country and the Grand Country who operate, mobile marine on the S.S. Roccalyn, who operates mobile marine on the S.S. Roccalyn, of his d.f. long. SARE outland his Bld. 15-the high frequency reviewer and explained her it could have from the country of the c

NORTH WESTERN ZONE STL be MORTH WESTERN ZONE

STL be foot siled to replace
the 50 footbear siled to replace
the 50 footbear siled to see the 50 footbear
the 50 footbear siled to the siled to the 50 footbear
the 50 footbear siled to the 50 footbear
the 50 footbear siled to the 50 footbear
to 50 Self-like at Section Forestities, the Law is the self-like and the I could fancy a 6 metre rotary aton Boy's 81 33G has advertised his rig for sale. know yet whether Johnnie has gone cold on Harr Radio or is merely re-building. RHM has had a Radio or is merely re-building. BIM has had is hary month's holiday, attending Rate Ouversition. Averal Convention, General Merting, Mornington also thirting mmy Etm sharks an own merting with further ideas for six. Intends in replace there-element series phased zuray with four element wax rotary, and 300 chm ribbom (which has blown to bits) with 60 chm cs.22.

QUEENSLAND

It the seventeenth Annual Meeting of the Queeus land Division held on 2 th February, 1949, the election of office-Heavers for the coming year was circles of discrete for the course reverse employed, with the following reverse complexed, with the following review of the course of the course of the following review of the course o Membership at the end of last year showed 73

NOW AVAILABLE

TECHNICAL TOPICS RADIO HANDBOOK

2nd Edition

With its 368 pages of highly informative material and cross indexing For easy reference Tec. Topic Radio Handbook is a valuable sid for any radio work bench.

(Note: The 2nd edition does not repeat any material con-

A radio menual dealing with all aspractice Tec. Topics Radio Handbook is designed to assist all radio serviceas actigated to assist all rodio service-men, amateur operators and radio experimenters in overcoming the problems with which they are con-fronted during the course of their radio work and experiments.

> Technical Topics Radio Handbook

Price 15/- plus 1/- reg. post

MINGAY

Publishing Co. Pty. Ltd. Box 3765, G.P.O., Sydney, N.S.W. There are VK stations in Antarctics. Sorry for the grouph OMs, but quite a number here in VK4 consider the latest move a bit over the frace.

Bundaberg Zone (484).—The Annual General Meeting of the Bundaberg and District Radio So-ciety was held in the Club Rooms on 22nd Feb. eisty was beld in the Club Rooms on 22nd Feb. The election of new officers for the sext 13 member resulted in President, 40°C. More President, 40°C. Room Hensign and Publicity Officer, 48L. The Frest deat gave a very inspiring address on the Society activities over the last level months. If was excitities over the last level months is the sext of the s

QUEENSLAND OSL BUREAUX Outward. B. Campbell (4RC), 38 Pros-gect Terrace, Kelvin Grove, Brisbane Inward.-E Lake (4EL), Old Cleveland Road, Caren Hill, Brisbage,

410 k specifig a new 11 motive acteons and it new buildings are measured with sequence of the state buildings are being the state of the sequence of the seque with 18 Mc receiver, doing a bit on 7 and 14 Mc. Gymnus Zone (ARZ) — ACR QMs with good too sloking and appears on 7 Mc occasionally, 45M mow everting a 16 metre beam on the clammer, 48K as mixed 26 metre beam on boath America. 48K as new Harn in Gymp s, ex-43t of Espan 48K has at least moved into his new some and hopes e at least moved into his new source and hopes do big things with the good old 60 feet acids. Boath West Zone (4ER) -st. I so sign of 4UX's new bears. 443 believed to be on holldays. 446 has dried to go and 10 metre converters. 446 new one

the remilers in the kunday morning hook on.

4TT is believed to have up a good score in the RERU Coctest. 4ER and 4LD still keeping Laidler on the map.

Mackey Zone (4KW) 4FH still working South Americana, John mes fixed beams, one on North America and the other on the South, 4KW holiday

No news this month from the Townsville, Curus and Binterland nones, managers are requested to contact the writer The Country Representative would like to bear from members to Rockbumpton would like to near from measures in socknowly in and district with a view to forming a none to that area. In conclusion we again appeal to mem-hers for articles suitable for publication in "Am-

SOUTH AUSTRALIA

The monthly general meeting was held once again at 17 Waymouth Street and a very septe entitive gathering were present. The guest speak e was Mr Ferrar, and has subsect. "there as Impression." arease of humour did more to entertain mu.

He gave an interesting description of his art trip
from Austra is to England and topped it off with his own impressions of television. The in bean, and a tote of thanks proposed by Mr 1-Barbler (1312) was received with the accumulated it doserred. This type of lecture is always welcomes it breaks away from tenatur Radio, which is alto the good at times.

Among the visitors were Meson. J. Transuch, G. Read, R. Barron, and T. Marryn. Quere as a triggers of VX2 boys behind up out of the bur to R. Cuncungham 1ML, V. Lord 1894, and and loss for the Act L. Taylor 3712. Mr. tune inglice addresses the meeting on severa, puntly of interval she i as the magazine, and was bombarded with special un-

The result of the election ballot for Council Members was announced toward the close of meeting and armed out to be "do fight," as all of old Counci Members were voted back tato not to the meeting. Apparently the Council has the support of most members despite the 'heifer dust" floating around before the voting day, such dest" bolding around secore me young cays and "the 8 t libration is run by a climbe" and "we want is we dire on the Council". I would liked to have seen a v.l.d. representative on the Council. but us it cy nominated three candidates, all they it it was to "spot their votes" and defeated them-selves. This was surprising to me, as that canny campages leader Jack Coulter (\$4D) should have been a wake up to that ope, Anyway it is all ever now, and the new, or nid Counci. (whichever too like is call it) will continue to carry on doing what it thinks is best for the majority, and if my if the inhority wants to put on a back, well there is always the floor of a general meeting sect they be always the floor of a general meeting to ware a price. As a to passing these was one of the section of the section. The camero of the Council for the section of the section I use of ! Norm Columns sitting at the each re-ceiving table at the meeting will the Pressurer Gorden Jones (XI) and pudging by the strathed

which is the state of the state Ball times forward as sale to m Sydney, but

state the second of helps, a space-recitly be well be hard. Was non-decoug where you were B.J. tack of a state and first cost. My space tell me that Ross helps at Max harmer of My state.

TRANSFORMERS, CHOKES, ETC., Manufactured to order. Following stock sizes available:

SOLVE YOUR MAINS TROUBLES WITH AN

AUTO TRANSFORMER

Bendix Frequency metres complete with original crystal and calibration book. Perfect order. £35.

POWER TRANSFORMERS . . .

- 600 Volts aside, 250 M/A, £3 5 0 4 17 6 880 Volts aside, 300 M/A. 6 17 6 1250 Volts aside, 400 M/A,
- Tappings taken out where desired.
- POWER TRANSFORMERS and CHOKES Re-wound-Reasonable Prices
- A few more oil filled T.C.C. and CHANEX Condensers are now available in the following sizes. 10 MFD 1500 volt working £1/7/6 2 MFD 3000 volt working £1/12/6 2 MFD 500 volt working 5/-2 MFD 2000 volt working £1/5/0 4 MFD 1500 volt working 17/6 B.T.H. 10 HENRIE 250 M.A. 1000 volt CHOKES £1/5/-.
 - Crystals as illustrated, 40 or 80 metre. AT or BT cut. Accuracy .02% of your specified frequency £2/12/6 each
 20 metre Zero Drift £5/0/0
 Large, unmounted, 40 or 80 metre £2/0/0
 Special and Commercial crystals. Prices on application.

CRYSTALS REGROUND . . . £1/0/0 euch

BRIGHT STAR CRYSTALS may be obtained from the following interstate firms:-Massrs, A. E. Harrold, 123 Charlotte Street, Brisbane; A. G. Healing Ltd., 151 Pirie Street, Adelaide; Atkins (W.A.) Ltd., 894 Hay Street, Perth; Lawrence & Hanson Electrical Pty.

Ltd., 120 Collins Street, Hobart. A.W.A. SPLIT STATOR TRANSMITTING CONDENSERS, high voltage ... £2/15/0 each SCREW TYPE NEUTRALIZING CONDENSERS (National type) to suit all triode tubes, Polystyrene

Sat staction Guaranteed Prompt delivery on all country and interstate orders.

BRIGHT STAR RADIO. K. G. Allen (late R.A.N.) 1839 Lower Malvern Road, Glen Iris, S.E. 6, Victoria. Phone : UL 5510

Page 18 Amateur Radio: April, 1949 no good with the clustre crayfish at Cape Jaffa, But apparently Ross still retains his sense of hum-sur, because as they passed a couple of the big-fishing boats he least over the side of the cockie-shell boat he was in and said in a very high pitched voice, "the velly velly solly, this is way to Amstralia, yet," to the veldent amagnment of all the crew yes?" to the

and thermen. In the small relaception was re-CPD increase in the small relaception was re-tended to the small relaception of the small re-tended to the small relaception of the small re-search to the small relaception of the small re-search relaception of the small relaception of the menders and all millied cround to pur their the menders and all millied cround to pur their the menders and all millied cround to pur their a good mark stamp from Gordon. I have not paid a good mark stamp from Gordon. I have not paid a good mark stamp from Gordon. I have not paid a good mark stamp from Gordon. I have not paid a good mark stamp from Gordon. I have not paid a good mark stamp from Gordon.

eral Convention are Eddle Burbler (5MD) and Halbert Austin (5AW). I am not too sure of that Halbert, but I could be right, nevertheless and Halbert Austin (DAN); nor Halbert but I could be right, novertheless and Labert, but I could be right, novertheless and both kays had plenty of experience at the Convention and can be notified upon to keep the best State in the Commonwealth well to the front! There is no and can be notified upon to keep the best State in the Commonwealth well to the front! There is no and cannot of these being no first in Melbourne. They call it samming over there.

6.41 is leveling youngement of younger every day, CAM is leveling youngement of younger every day.

6AH is looking younger and younger every day, in fact be is getting so young that he specialises in youngeters' complaints. You said it, mumps. Sorry Peel, but it was too good to miss. SAA has his beams working very well on 10, 5 and 2 metres. They are all three element wide spaced and motor driven. John has a crystal controlled transmitter. on 6 and 2. DAS is will not satisfied with his beam that do 1. DAS is will not satisfied with his beam that do 1. DAS is will not satisfied with his beam that do 1. DAS is the Garden of the Carlo and the beam to 1. DAS is the beam to 1. DAS is the beam to 1. DAS is the control of m. John has a crystal controlled transmitter and 2. BMS is still not agriculate with his his

60H has been busy on the bushfire frequency coupled with a business trip to Adelaide. 5TW has been be 10 metre e.w. and is also experiment-ing with fixed beams, 50J still finds that the state ing with fixed beaum. SCU still finds that the state of married blis is cover bein very little time for order of the state at the moon since the last storm bent it up. Dame Rumour reports that 5JE has had it and sold all his gear. He has also resigned from the W.I.A., so it seems only too true

so it seems only too trees.

Due way to get 450% is to be like 450°. See it.

Due way to get 450% is to be like 450°. See it.

Due way to get 450° is to be like 450°. See it.

Due to encountered 510. Rocemary and Bergi,

Bose the annotation of 510°. Rocemary and Bergi,

an Owen gen. Leith Cotten (\$150) made up a microphase lead at described in "A.R." but may an observe the see and the see of t

remediate seek of the Integraps of Prance.
Who was to Hen In an Enter south who was the same and mow and 185%

WESTERN AUSTRALIA

The March meeting was held on the 15th. It as a General Meeting, followed immediately by

was a General Metting, followed immediately by hannial Mettin-Prediction. Charts appearing in "Annater Radio" were emblect to discussion. Be-cluse of the list arrival in VRS of the magazine, classe of the list arrival in VRS of the magazine, of constituous that could be especied on the hands rewrittless on normalies had compared logs with Newthern Compared Logs with the compared logs with been pericolately accurate. Steps are being taken are midsuver to have the magazine delivered are midsuver to have the magazine delivered

6WT explained the late arrival of the December lame of the magazine and 6GM, our Federal Councillor, will try for a more equitable distribution of the magazine when he represents us at the Easter

6CP told us that there was a certain amoun of the distribution among our country members, and it has been decided to circularise all members in Was to gather suggestions which can help or PERSONALITIES

PERSONALTIES

2800B to m his way lack to VK jand. We'll
be looking forward to more regular QROs now Lee.

CRLMH guidened the bearts of a Jonet of VRSo on
doors of us, one after the other, while conditions
were at a poak on 18 Mc. immed then of condition
for her QRO end are: 481t, CMR, 629, 533, GLA.

Committee of the condition of the condition

preed of his effort with only 30 waith.

5DP has done, as efficiency check on his rig.

Merric was surprised at some of the figures and

believe to the property of the contact with the new

Expeditions now on Heard Island. He is expecting

a Vill, from Villa CD our day sow. GRS and 60D,

villa, When are we going to hear you two boys

or 7Mc. again.

6TX back from a holiday to Geraldian, Jack had time up there, but he has forgotten h his own rig on. Ham't here on since a wonderful time up there, but he has forgotten how to artich his own rig on. Ham't here on aisace he came beck. 620 says we may hear him around the bands again soon. Bept he is fair dinkun! 66C has bless of guiting the rig on 7 Mc. phone. Good show Bok, we will be looking for you. 6CK has a size signal on 7 Mc. Colin is building a reary turner receiver and that has been taking most of his space time. 6MX putting out a red solid cw. signal on 14 and 28 Mc. bands. Mile getting a good share of DX. Thought he wo have had a go at the 1949 B.Z.R.U. Onsteet. Thought he would

6JB has been too quiet too long. What's hap-pening there Alas? 6DD is wearing a frown since he learned that 6FW will be living just accoun the river. Someone was talking about canoes, exes, and chopping down masts! 6ND has a re-building pro-gramme well in hand. What shout putting up ? chopping down meants! 6XD has a re-building pro-gramme we'll in hand. What about potting up ? Mc, astemm again Nerillet' 6XQ now has a nice phoce aignal on the air. The only trouble Netl, is that we don't hear enough of it. Did you get the use of 61XP modulator! 6HL not beard quite so frequently these days. They say then's a W.A.C. for Workel All Claremont. Is that right Enryl'

TASMANIA

The transfer of Mr. Terry Connor (7CT) to Honville and his subsequent retirement from active Honoville and his subsequent retirement from active participation in institute affairs has made it no-centry for him to give up writing these notes in favour of 72E, so before you go Terry, the writes would like to take this opportunity to thank you on behalf of fellow members for all you have done, and wish you good lock in your new job.

The March meeting wat, as you know, or North March March meeting wat, as you know, or Gelfs a lot of leve names appear in the redwille and it will be interesting to see how things abuse in the future—not that there were any complaints with the old geng. The disner that fullowed the Jammal all who nittended—convoice said that the lemands all who nittended—convoice said that the lemands was fast, but I noticed that both harmle were emply when we pulled the big switch

when we pulse the long swatch.

A field day with the usual 4.6 hunt was held on
Sunday the 6th March. The transmitter was the
the bands of '1985, and 128 and they those a syet
lead to the bands of '1985, and they those a syet
lead to the bands of the bands of the bands of the
lead to the bands of the bands of the bands of the
lead to the bands of the bands of the
did you wash the battery acid out of your tronsers
when there wasn't any water for miles around?

when there want's any water for miles around?

703 and 748 are buy brilling beams and by
the times these notes are in print they should be
in operation. 150 built a three element time spaces

71.55 has been beard on 7 Mc. conducting experiments with low prover shiple side band transmissions,
side work Lee; hew about writing up the smalls

XXII ere: We have just changed QTB and I had
a long usir up before I had the carputa down—still

there is a lot of gardening bounds; up.

NORTHEAN ZONE

There has been only limited activity in this some since the New Year and although the routine steeds have been kept by the 144 Me. enthusiasts and in-termitteet operating by the DX boys nothing spec-tacular his happened.

tacular has happened.
On 25 Mc. the Paruposan break-throughs, predicted by the ionospherios, did not eventuate in Tammatis, because distributed the late afternoon of 27th February and the state of the present the strength as did cold Europeans. W.A.C. was hered on this band from 11 a.m. until evening. It is fairly unusual for we to bear such a writerly of Noon this band.

bear such a variety of DX on this band.

The Annual Meeting und Diracer of the W.I.A. was held in Hobart over the March long week-end. Two one carrying at members from this acce made the company of the such as the control of the co then followed Tall's car. Fortunately Lou had the direction correct and no peirol was wested. Lack rode with the because the only time Lou made a wrong move we found a hotel on the corner of the read and we were able to wait for him. Anyway we are not biaming Lou as it is doubtful if we could have got past anyway.

On the Sunday evening surious shacks were visited and little time was wasted in sleeping, in fact 7RK and 7DS grabbed forty winks on the On behalf of those making the trip, I would like to thank the various Hebert members for their

FIFTY AND UP

NEW SOUTH WALES-Compiled by VK2NP We have much pleasure in announcing the winners and participants of the recent V.H.F. Contest conducted by the N.S.W. Division V.H.F. Section:—

All Band-..... 174,675,759 points VEZABZ .. 50 Mo-VK415 3,140 points 1,028 " PREADE 1,800 144 Mo-698 points 645 " VERWJ ...

Others who participated were: VKs 2ADT, 2HZ, 2ADW, 2ABO, 2FN, 2NF, 2AJA, 2MQ, 1LK. We congratulate the winners of each Section and would like to specially mention the performance of 2MJ who made such a collossal score due to the of two will made such a colleged score due to the advantage of working three bands, thereby taking full advantage of the multiplier. The Contest was very specessful and achieved

and Contest was very specedural and achieved the object for which is was conducted and that is to stimulate interest in v.h.f. bands, theywere one disappointing feature was noticeable and that was the absence of new stations which might have been altracted to v.h.f. by the fact of the Contest. Howattracted to whal, by the fact of the Contest. How-ever those who participated enjoyed every minute as was evidenced by the remarks and consistents for warded to the Contest Committee on request. From these, the Committee was able to gather many married engagestions for the proper running of such another during summer of 1946.

another during nummer of 1946.
The general options seems to be thought that F.E.
The general options seems to be thought that F.E.
The general options of the seems of the see

their rules and negrotations. Talking of Confects, the N.S.W. Section are holding another V.H.F. Costest during May, from 1st to 31st inclusive on 144 Mc. Points score as follows: up to 50 miles 3 points, up to 100 miles 6 points, over 100 miles 13 points. Pull rules will be available in April monthly Bulletin.

A field day was conducted on 17th February by members of the Gladesville Radio Chab on 268 and 144 Mn., around some of the high spots of Sydney.

where sits in the second site S.A.W. Y.B.F. becine was held in 11-th Much at Stones Gross and Mr. Silver W.Y.G.W. as register of A.W.A. Leid, shilvered S.M. Silver W.Y.G.W. as register of A.W.A. Leid, shilvered S.M. Silver W.Y.G.W. as the second site of the se

The weekly breadcast of news and settlittles to members and confinitions on the MLA. Bas. up till recently, been transmitted by TNP but linguist the important pile. 12th Zatomba kindly valuntered to carry on with the good work, therefore WH can be lared on hundre apids at a part of the property of the

This completes the rotter for this month and would like to that these who competed by would like to that these who competed by mod forest the 25% who can operate on 276. Moreover, the contraction of the

VICTORIA

O Mcc—There is not a great deal to report this mean that the control of the control of

broken through since the consisten reported in the line times, for filling the hash beam of feet high and in the line of the l

February by \$125 on Perily Suly HIII, returning from the NL. Does Constrained in constrained and approximate the mobile coming down, when the signals well them mobile coming down, when the signals well to rise and actually became stronger than they were to rise and actually became stronger than they were referred to the same region as most on the second of the same region and the state obtained by certain stations on both \$60 and 148 Mc. 30D of Bernalam should be on the band looking

obtained by certain stations on both 50 and 148 Me. ADD of Hemban should be on the band looking for contexts by the time this expent. But of its Head of the state of the stat

Count memory-count of the count of the count

tief: but complete details are not waitable or complete sheet, and the receivant anthree; higgsrating chemostacities of 450 Me, gaze was given at the March V.H.F. Group meeting. 32W had a transvert using a 93E with meeting. 32W had a transvert using a 94E with the contract of the contr

over. This should enable spite a tow more chapte to get gave going on this very interesting band.
WESTERN AUSTRALIA—Consilled by VKSFC
The 50 Mc. hand seems to have peached up for any other spite of the seems of the seems of the seems of and January were just should. Metropolitae, the stores, 6LW and 6PC, etc., hearth orbiting, 6000 and January were just should be seen of the seems of the seems of the seems of the seems of the life, but it is fairly safe to the first seems of the but it is fairly safe to the first seems of the January hand nothing, neither of this at La-Tevarrille, Cairus and Brithese Badles Bangwaller have been heard duting Philomary as good attempts.

gootile. Coince and Brisbore Radio Engages Towardlis. Coince and Brisbore Radio Engages and Coince and Fertile, but no sign of any from time to time in Pertile, but no sign of any grand on 50 Me., even by Sponsalie E propagation, as 500 at Minsiley Bad his share of excitament, but the coince with the

CORRESPONDENCE

GENTLEMAN'S AGREEMENT

362 Ansac Highway, Mornington, S.A.
Editor "A.R.," Sir.

With the temporary shows from Rails of WYJJZI, II is not sissense after twickle the temporary VYJZI, II is not someone after the WyJZI, II is not someone after the WyJZI, II is not some of the temporary and the some of the temporary and the some of the temporary and tempo

but what about the chap who wants to try a new modulator and has only one crystal, and all the other exceptions. Really to be fair to all; no perfect agreement can be reached, but surely 80 Ke. out of 200 could be spared for the chape who want that cluster 25 for ? Mc. W.A.O.

that cluster 25 for 7 Me. W.A.O. The story year age. There is no second to the story through 1 cm² remember has proposed on the sweet of the story please or the sweet of the story please or the sweet by c.w. The division of bands by "Gentleman's Agreement" must be International, but how can it has internationally successful, if we can't keep the agreement here in TX, so what about it chapa.

-ROB. S. GURR, VESRG.

FOR SALE, EXCHANGE, WANTED 8d. per line, minimum 2/-

Copy must be received by 15th of month.

Remittance must accompany advertisement. Calculation of cost is based on
an average of six words per line.

FOR SALE.—Bendix BC221 Frequency Melera complete with spare set valves, crystal, and calibration book consistency of the set of the

FOR SALE—Pair 30v. Selayna 25/pair 110v. Selayna 25/e, E-322 receiver, pair 110v. Selayna 25/e, E-322 receiver, pair 110v. Selayna 25/e, E-322 receiver, pair 110v. Selayna 25/e, E-322 receiver, selayna 25/e, E-322 receiver, 12/e, selayna 25/e, E-322 receiver, 12/e, 12/e, 13/e, 11/e, following tuben new and boxed 259B 25/10/-, 25/e, 25/e, 12/e, 13/e, 13/e,

FOR SALE.—S2OR Hallicrafters Receiver, excellent order, £40; Pales 2°C.R.O. complete, £20; FS6 Transceiver, new valves, no power pack, £6; Felee V.C.T. Valve Tester, new, £20; Weston 695 Mod. Osc., needs attention £10. VKTWT, R. A. Milledge, 8 Montagu St., Newtown, Tas.

WANTED.—One 18-pin cable connector, one co-ax, connector for Bendix 522. Please write direct and state price to VK6WG, Box 42, Albany, W.A.

WANTED.—455 or 465 Crystal. J. Murphy, 41 Forsyth St., West Ryde, N.S.W.

3BZ TRANSMITTER (or similar type) wanted, either a.c. or d.c. operation. Write, stating price, particulars to G. Laver, Fish Creek, South Gippsland.



TRANSFORMERS OF DISTINCTION

Wgt. 1lb 8 ozs

Type No. LV26

Type No LV36

Wgt 1lb Eoz

LINE TO VOICE MATCHING TRANSFORMERS The transformers described in this section are con-plementary to those listed in the previous menth, and are intended to match 500 or 250 ohm output lines to any number of speakers from one to twenty inclusive.

author of speakers from one to twenty intrastice and they are high efficiency units with interleaved original to the control of the control o

Type No. LV10

Primary Z: 1000 ohm tapped 500 ohm-5w Secondary Z: Speaker B-Coll Base: 2 5-8 x 2% x 2% H Mntg: MH1B

Mntg: MHIB
Base plate fits standard 8" speakers.
No. Speakers matched: 500 ohm—1 or 2
No. Speakers matched: 250 ohm—2 or

Primary Z: 2000 ohms tap 1500 ohm, 5W. Secondary Z: Speaker V-Coil Base: 2 3-8 x 22, " x 21, " H Mrtg: MH1B

Mntg: MH1B
Base plate fits standard \$" speakers.
No. Speakers matched: 500 ohm—3 or 4
No. Speakers matched: 250 ohm—6 or 3

Primary Z: 3000 ohms tap 2500 ohm, 5W. Secondary Z: Speaker V-Coil Base: 2 5-8 x 2% x 2½" H Mote: MRIB. Wgt. 1lb, 8ozs.

Intg: MHIB
hase Plate fits standard 8" speakers.
lo, Speakers matched: 500 ohm—5 or 6.
% Speakers matched: 230 ohm—10 or

ITEM 68. Type No. LV40

Primary Z: 4000 ohms tap 2500 ohm. 5W. Secondary Z: Speaker V-Coil Base: 2 5-8 x 254 x 254" H Mnrg: MH/IB Wgt. lib. 8 ozs

Mints: MHIB
Base Plate fits standard 8" Speakers
No. Speakers matched: 500 ohm—7 or 8.
No. Speakers matched: 250 ohm—14 or 16.

ITEM 69.

Type No. LV50 Primary Z; 5600 ohms tap 4500 ohm. 5W. Secondary Z; Speaker V-Coii Base 2 5-8 x 2 3 x 2 1 3 H Mntg; MHIB Base Plate fits standard 8 Speakers. Wgt. 1lb.8ozs

o. Speakers matched: 500 ohm—9 or 10.
o. Speakers matched: 250 ohm—18 or 20.

No. Sprakerr matched: do unaway or 18 ya.

The correct value of primary impedance for parallel arrangement for equal distribution of the output of any or the property of the

300. 30, however, will also serve for 12 speakers, but they would then be placed in parallel 50 ohms tappings on the transformer, as 3000

divided by 12 equals 250 ohms, and the reflected load

In many installations, however, owing to varying noise levels and other modifying factors, each speaker may be called upon deliver different amount of power. In these circumstances, the primary impedance may be determined by applying the following formula:—

ZX equals ZW

where Zz equals the primary impedance has be delurnined.

We quals the primary impedance in he was a compared by the primary in the primary i

Speaker Watts Each 10

Substituting LV30 (2000 obms) for steaker No. 2 and LV40 (3500 ohms) for speaker No. 5 means that standard units may be used, with a slight decrease in power to speaker No. 2 and a slight increase in power to speaker No. 3.
These five transformers when wired in parallel would be present a terminal impedance of 515 ohms approximately which is a negligible degree of mismatching.

HIGH FIDELITY LINE TO VOICE COIL TRANSFORMERS

The following high level line to voice coil or recording head angut transformers are complementary to the formers are high fielding head of the formers are high fielding tunis with an individual intertion loss of not greater than 0.3 th and a frequency range +/- 0.5 do 2.5 pps to 15 Keys.

References to their dimensions will indicate the large core structures adopted to keep iron distortion to negli-gible proportions by the use of low flux inductions at the maximum signal voltages incurred.

TEEM 70. Type No. VW15 34db, 15 Watts 15 ohms Voice Coil Wat, 3lbs "S" is 114" Primary Z: 500 ohms _____ X 27-8 X 3.7-16" H Base: 2% X TTEM 71 Type No. VW 126 Primary Z: 500 ohms Secondary Z. Base: 4½ x 4 x3½" H Mntg; VS10 12 ohms tapped 6 ohms Wgt. 8 lbs. "S" is 2 1-8" ITEM 72. Type No. VW84

Primary Z: 500 ohms ______ Secondary Z. 39 db. 45 Watts 2 ohms tapped 4 ohms Wat. 8 lbs. "S" is 2 1-8" Base: 414 x 4 x324" H Mntg: VS10

Type No. VW 205 ITEM 73 38 db. 43 Watts 2 olums tapped 0.5 olums Wgt. 8 lbs. "S" is 2 1-8" Primary 2: 500 ohms Base: 4¹4 × 4 ×3²4" H Mntg VS10

RED LINE EQUIPMENT PTY, LTD.

TRANSFORMER ENGINEERS

WORKSHOP: Cent. 4273. CITY OFFICE: MU 6895 2 Coates Lane, Melbourne (3 lines), 157 Elizabeth

> KEEP THIS CATALOGUE Cut out and file for reference



DISTRIBUTORS: VICTORIA: VICTORIA:
Homecrafts Pty. Ltd.
Arthur J. Veall Pty. Ltd.
Radio Parts Pty. Ltd.
Howard Radio
A. G. Healing Ltd.
Healings Pty. Ltd.
Lawrence & Hanson
Electrical (Vic.), Pty.
Warburton Franki
(Melb.), Ltd.

NEW SOUTH WALES: United Radio Distributors Pty. Ltd.

QUEENSLAND: A. E. Harold, B. Martin, Denradio Industries (Maryborough). Michaelmore & Co.

(Maekay). SOUTH AUSTRALIA; Gerrard & Goodman, Radio Wholesalers Pty, Ltd.

3.

Ltd.
Newton McLaren Ltd.
TASMANIA:
Noyes Bros. (Aust). Pty.
Lawrence & Hanson
Electrical Pty. Ltd.

DEPENDABILITY

GUARANTEE

Amoteur Radio, April. 1949



PICK-UPS FTO

GERMANIUM CRYSTALS

TAG STRIPS wide 12 lugs a side. 2/-, ea.

Crystal type C.G.I. Price 20/- ea. plus

EDDYSTONE TRANSMITTING CONDENSER

Idination in construction—length only varying according to capacity value — the condensars listed have ceramic and plates 2]" squeer—Sinale point ratio carthing connection pervants circulating RF currents. Lags on the states permit either the direct Fision of the consciented coil or for connections to stend-off insulations, etc. Alternotive conduct points availables. Yane spot-Ic. Alternotive contact points available. Tone spar-g. "—decapete for high valtages, provided O.C. in g."—decapete for high valtages, provided O.C. in the end seerth. Metal parts, including spacing pillent, popind for three point chosin fixing. Standard 1" pinelis. Each condensor of the spill stoler type, dis-pinelis. Each condensor of the spill stoler type, dis-ingly are to the spillent provided of the spillent ingly are both can be canceted in parollal. A wide many of weeking capacities thus becomes confolible.



Resistance

0.5-20 -2000emmi 50-2000-200,000mm

x 5000 - 200-000 - 20 Mcg. ohms

\$0-2000-200,000mms \$500 - 200,000- 2 Heg

No. 412 No. 614

RF CHOKES AEGIS obtainable in to 4 Pye including top-ered 2.5 inductance.

NOTE R.F. Chokes are available to any inductance

57/- Plus Tax 50/4 Plus Tax 68/2 Plus Tax CRYSTAL FILTER.

TERMINALS Philip Type Heavy duty Price 1/6 plus tex.

OLDER Sich Ersin multicored. 8/3lb. plus tox.

plus tex 10%. J.H.MAGRATH & Co.

COILS

AEGIS TYPE M22 IN-PUT 455KC M 22A OUT

PUT 455KC. Price 8/3

208 LT. LONSDALE ST., MELBOURNE Phones CE